

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRIC TARIFF FILING OF EAST)	
KENTUCKY POWER COOPERATIVE, INC. TO)	
IMPLEMENT A RESIDENTIAL ELECTRIC)	CASE NO.
VEHICLE OFF-PEAK CHARGING PILOT)	2022-00439
PROGRAM)	
)	

RESPONSES TO STAFF’S SECOND INFORMATION REQUEST
TO EAST KENTUCKY POWER COOPERATIVE, INC.
DATED MARCH 13, 2023

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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KENTUCKY POWER COOPERATIVE, INC. TO)
IMPLEMENT A RESIDENTIAL ELECTRIC)
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CASE NO.
2022-00439

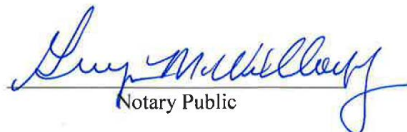
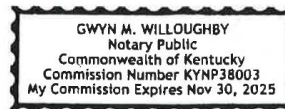
CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Scott Drake, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Staff's Second Information Request in the above-referenced case dated March 13, 2023, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.



Subscribed and sworn before me on this 29th day of March, 2023.


Notary Public

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00439
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED MARCH 13, 2023

REQUEST 1

RESPONSIBLE PARTY: Scott Drake

Request 1. Explain why EKPC proposed an Electric Vehicle (EV) pilot program as a Demand-Side Management program rather than an optional rate tariff.

Response 1. EKPC chose to pursue the EV pilot program as a Demand-Side Management program because the optional rate or time of use ("TOU") tariff specific for EVs to be offered by the 16 owner-member cooperatives of the EKPC system ("owner-members") would require cost of service studies by each participating owner-member and individual TOU rate approvals. Additionally, neither EKPC nor the owner-members, have or have been able to obtain defensible diversified hourly load shape data for EV home charging in rural Kentucky or similar rural areas in another state. Reliable EV home charging load data is needed to develop an optional rate or TOU tariff. EKPC also believes that to encourage more participation, the incentive only method is a better model in comparison to a TOU rate model that imposes a penalty when charging the EV at home during on-peak hours.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00439
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED MARCH 13, 2023

REQUEST 2

RESPONSIBLE PARTY: Scott Drake

Request 2. Refer to EKPC's response to Commission Staff's First Request for Information (Staff's First Request), Item 1b.

Request 2a. Explain EKPC's decision to propose a per kWh incentive instead of a flat rate incentive.

Response 2a. Although the one-size fits all flat rate incentives are traditional models for Demand Side Management programs, EKPC believes that, with today's technology, obtaining the more granular data per kWh can facilitate a more accurate application of incentive payments per participant. This is a load management program. The participant is paid for the amount of load that is shifted from peak load hours to off-peak hours.

Request 2b. Explain whether EKPC considered any other incentive method when developing the proposed pilot.

- (1) If so, explain in detail the different incentive methods considered and include the amounts, per incentive.
- (2) If not, explain why EKPC did not consider an alternative incentive method.

Response 2b. The per kWh incentive model provides the most granular data available and because the goal with the EV pilot is to gather the best EV charging data possible, it was a better model than the flat rate incentive model. The per kWh incentive provided the best data, so alternatives were determined to provide less quality data and therefore provide lesser value to the program.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00439
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED MARCH 13, 2023

REQUEST 3

RESPONSIBLE PARTY: Scott Drake

Request 3. Refer to EKPC's response to Staff's First Request, Item 1d. EKPC stated that it plans to employ two methods of quality assurance to verify accuracy.

Request 3a. Explain how the third-party vendor will collect and access the EV telematics and how the information will be provided to EKPC.

Response 3a. The majority of EV's currently on the market collect and store charging information. During the participant sign-on process for the EV pilot, participants provide consent to EKPC's third-party vendor to access their individual EV charging data. Once consent is given, the third-party vendor will then access the charging data via Wi-Fi or cellular communication with the vehicle. The hourly charging data information will then be provided to EKPC on a monthly basis in a .csv file transferred by the third-party vendor to EKPC through a secure file transfer protocol ("sftp").

Request 3b. Explain whether the third-party vendor will perform any other tasks than collect data via EV telematics. If so, describe the additional tasks.

Response 3b. The third-party vendor will also provide a personalized charge report email once per month to each participant containing information about their EV charging. The charge report will state the amount of incentive earned per month and potentially point out opportunities to save going forward.

Request 3c. Explain what information the third-party vendor is capable of collecting that EKPC is not able to assess through the AMI and Sense Flex home energy monitors.

Response 3c. The third-party vendor will collect EV charging kWh data for every participant in the program. The application will be installed for every participating vehicle. The bill credits to each participant will be calculated using that data.

The AMI whole-home data does not measure nor can it provide hourly EV kWh usage. However, EKPC will utilize the whole-home AMI data from five (5) owner-members to help evaluate the accuracy of the hourly kWh charging data from the third-party. Please see Response 3d below. AMI whole-home data will only be used to help evaluate accuracy of the third-party data.

Another data collection method EKPC will utilize to help measure the accuracy of the third-party hourly EV kWh usage data is the Sense Flex metering. Sense Flex metering requires a technician to travel to the home and install a Sense Flex meter on the EV charging circuit of the

home electrical breaker panel box. Because of the cost to install the metering and the inconvenience to the participating EV owner, EKPC and the owner-members are deploying this system on a small sample of participating EV homes only help to measure the accuracy of the third-party data of hourly EV kWh usage.

Request 3d. Explain whether the Sense Flex home energy monitor is going to be installed for the five owner-member cooperatives noted in Method 1. If so, explain why that is necessary.

Response 3d. EKPC's goal is to recruit EV measurement and verification participants from the five cooperatives that have hourly AMI data. EKPC feels that placing the Sense Flex metering at hourly AMI cooperatives is an opportunity to maximize the learning potential of EV charging from this pilot.

EKPC plans to employ two methods of quality assurance in order to verify the accuracy of the data provided by the third-party vendor:

- Method 1 will use the hourly AMI data available from five of owner-member cooperatives. The AMI data are already used for revenue billing. This data will be available for the EV pilot program without additional expense. The five owner-member cooperatives in Method 1 have hourly AMI data available for all meters. This is whole-house kWh data. The EV charger kWh's are included along with all of the other consumption at the residence (heating, cooling, lighting, refrigeration, and so on). AMI data will be available for all participants served by these five owner-member cooperatives.

- Method 2 will use the Sense Flex home energy monitor. This monitor will be installed in the homeowner's electrical breaker box and will use two current transformers to directly monitor the dedicated 240 volt EV charging circuit in the participant's home. The monitor will provide hourly end-use data (the EV charging kWh directly). The Sense Flex home energy monitor will only be installed on a sample of pilot participants. There is a significant additional expense to use the Sense Flex technology.

Method 2 will produce more accurate results, since it is measuring the charging kWh directly. During the pilot, this will be the primary method for verifying the accuracy of the data provided by the third-party vendor. However, after the pilot ends, this method will no longer be available to use.

Method 1 will be the secondary method for the pilot. It provides hourly data for additional participants in addition to the Method 2 sample. Also, Method 1 can continue to be used to verify vendor data after the pilot ends. One example where this could be needed would be a dispute over the calculated amount of a credit.

Request 3e. Provide a cost estimate for the Sense Flex home energy monitor that includes but is not limited to installation costs.

Response 3e. The cost of an individual Sense Flex monitor is \$348. EKPC's cost to install the monitor will be around \$500 and cost of removal after the EV pilot is complete is estimated at \$125. The total estimated cost for the Sense Flex home energy monitor is \$973 per measurement and verification sample participant.

Request 3f. Explain why the two methods of quality assurance are necessary and does not represent duplication of service.

Response 3f. As described in response 3d, the Sense Flex monitor provides the most accurate, reliable, and direct monitoring of the EV charger. The hourly AMI method, while not as accurate or direct, is a no-cost opportunity for EKPC to develop its ability to disaggregate EV charging loads from whole home usage and its understanding of EV load profiles. The information is available and EKPC has a duty to improve its processes using reasonable resources available. The comparison of the data provided by these two methods is the data that EKPC needs to study EV load profiles in order to improve. EKPC's goal is to improve by comparing the detailed Sense Flex data next to the hourly AMI data. There is not a duplication of service because the two methods provide differing levels of detail and different information, however, EKPC is utilizing all of the data as a resource to provide better service.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00439
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED MARCH 13, 2023

REQUEST 4

RESPONSIBLE PARTY: Scott Drake

Request 4. Refer to EKPC's response to Staff's First Request, Item 1e.

Request 4a. Explain whether EKPC considered other methods of program enrollment.

Response 4a. The randomly sampled recruitment discussed in the response to Staff's First Request 1e pertains only to the measurement and verification small sample group that will be randomly selected from and after the main group of participants is secured. The main group of participants will be first come, first serve EV owners and will not be a randomly selected.

Request 4b. Explain the benefits of EKPC choosing to randomly select the participants for the EV pilot program as compared to other methods of enrollment.

Response 4b. Please see Response to Request 4a.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00439
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED MARCH 13, 2023

REQUEST 5

RESPONSIBLE PARTY: Scott Drake

Request 5. Refer to EKPC's response to Staff's First Request, Item 3a. Provide the estimated cost for EKPC to install a Utility-Controlled Charger at the customer's residence.

Response 5. In EKPC's evaluation of a Utility-Controlled Charger, EKPC viewed this model of program in the context of a member who already had a Level II charger on site. The retail member would already have a level two circuit and plug. EKPC's technician would assist with installation of the new Utility-Controlled Charger at this site. EKPC estimates the cost of installation by as technician at around \$100. The average cost of a Utility-Controlled charger is estimated at \$1,157. The annual software cost for the Utility-Controlled charger is estimated at \$44,937.

EAST KENTUCKY POWER COOPERATIVE, INC.
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SECOND REQUEST FOR INFORMATION RESPONSE

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REQUEST 6

RESPONSIBLE PARTY: Scott Drake

Request 6. Refer to EKPC's response to Staff's First Request, Item 5b. Explain EKPC's plan if a participation level of 50 EVs is not reached.

Response 6. If EKPC experiences difficulty achieving the minimum participation target of 50 EV's, EKPC will re-evaluate its marketing approach and consider providing an EV pilot program only sign-on incentive to aid in recruitment.

EAST KENTUCKY POWER COOPERATIVE, INC.
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SECOND REQUEST FOR INFORMATION RESPONSE

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REQUEST 7

RESPONSIBLE PARTY: Scott Drake

Request 7. Refer to EKPC's response to Staff's First Request, Item 5c. Refer also to EKPC's response to Staff's First Request, Item 1d. Explain which EKPC Owner-Member Cooperatives currently have AMI installed throughout their service territory.

Response 7. All of EKPC's owner-members have AMI. But only five owner-members have hourly AMI fully deployed for their entire membership. Those owner-members are South Kentucky RECC, Big Sandy RECC, Farmers RECC, Shelby Energy, and Fleming-Mason Energy.

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REQUEST 8

RESPONSIBLE PARTY: Scott Drake

Request 8. Refer to EKPC's response to Staff's First Request, Item 5f. Provide cost justification for a \$48,000 DSM Software Upgrade and explain the need for this update.

Response 8. EKPC manages all of its energy efficiency programs through the Energy Efficiency Collaboration Platform ("EECP") – its energy efficiency rebate tracking software system. In recent years, EKPC has found EECP to be vital in managing monthly bill credits paid to the participants for programs like Cooperative Solar as well. Since EECP has proven helpful in managing monthly bill credits, EKPC has decided to utilize it for the EV pilot program to automate the monthly credit (\$0.02/kwh off-peak) on the wholesale power bill from EKPC to its owner member and also on the participating retail member's bill. In order to customize programming for the EV pilot program, the company that owns EECP estimates that their cost will be \$48,000 to make the needed enhancements to the existing software. EECP will become the system of record for EV program incentive payments to participants. The \$48,000 cost is simply a software upgrade needed to automate the incentive payment process for the EV pilot.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00439
SECOND REQUEST FOR INFORMATION RESPONSE

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REQUEST 9

RESPONSIBLE PARTY: Scott Drake

Request 9. Refer to EKPC’s response to Staff’s First Request, Item 7. Provide a cost estimate of EKPC’s proposed advertising plan for this pilot.

Response 9.

The pilot is targeting 500 participants. Initial efforts will utilize owner-member cooperative offices, annual meetings, Kentucky Living magazine, owner-member social media and websites to inform EV owners of the program.

Media	Purpose	Proposed advertising spend
Social media posts	Provide social media content for owner-members to post	\$0
Kentucky Living	Full & half page ads in KY Living magazine	\$10,535
Owner-Member Websites	Provide content for owner-members to add to websites	\$0
Annual meeting handouts	Promotional materials	\$500
Point of purchase materials	Banners for drive-thrus, offices, or events	\$600
Total		\$11,635
*Search engine marketing (SEM)	Social media ads if additional response from members is needed	\$5,000 monthly
Total		\$11,635 +\$5k/month

*If further response from EV owners is needed, EKPC may initiate additional ad spends for search engine marketing (SEM) through a combination of SEM and social media advertising in zip codes

within owner-member service territory. EKPC estimates monthly SEM and social media advertising spends of \$5,000 until the targeted number of participants is reached.