

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ELECTRONIC INVESTIGATION OF)	
AMENDMENTS TO THE PUBLIC UTILITY)	CASE NO.
REGULATORY POLICIES ACT OF 1978 AND)	2022-00370
DEMAND SIDE PRACTICES)	

COMMENTS OF DUKE ENERGY KENTUCKY, INC.

I. INTRODUCTION

Please accept these comments submitted on behalf of Duke Energy Kentucky, Inc., (Duke Energy Kentucky or Company) in response to the Kentucky Public Service Commission’s (Commission’s) request for comments from interested utilities in order to develop a record that the Commission can draw upon as it considers the standards established by the amendments to the Public Utility Regulatory Policies Act of 1978¹ (PURPA) with regard to demand-response practices.²

II. BACKGROUND

On November 7, 2022, the Commission initiated this proceeding to consider the standards established by the PURPA amendments with regard to demand-response practices. The amendments to PURPA do not specify the procedure that the Commission must follow in considering the standards established by the PURPA amendments; therefore, the Commission found as an initial matter it would first elicit comments from interested parties, including all Kentucky jurisdictional electric utilities.

¹ 16 U.S.C. § 2621(d).

² *In the Matter of an Electronic Investigation of Amendments to the Public Utility Regulatory Policies Act of 1978 and Demand Side Practices*, Case No. 2022-00370, Order (November 7, 2022).

In its November 7, 2022, Order, the Commission directed jurisdictional electric utilities to provide: (1) a report of existing measures used to promote the use of demand-response and demand flexibility practices by commercial, residential, and industrial consumers to reduce electricity consumption during periods of unusually high demand; and (2) a discussion of appropriate measures to promote greater the use of demand-response and demand flexibility practices by commercial, residential, and industrial consumers to reduce electricity consumption during periods of unusually high demand. Duke Energy Kentucky provides its comments on these topics below.

III. DISCUSSION

A. A report of existing measures used to promote the use of demand-response and demand flexibility practices by commercial, residential, and industrial consumers to reduce electricity consumption during periods of unusually high demand.

Duke Energy Kentucky offers demand-response programs, which promote and reward demand-response and demand-flexibility practices, to both its residential and non-residential customers.

Residential Customers

Duke Energy Kentucky currently has one demand-response program that is available to all residential customers with central air conditioning and one demand-response pilot program with a limited number of enrollees.

1. Power Manager®

The Company's Power Manager® demand-response program is available to all residential customers with central air conditioning. In exchange for monetary credits, as detailed further below, participating residential customers (1) permit the Company to install load control devices on the outdoor units of their air conditioning; and (2) authorize

the Company to cycle their air conditioner to reduce usage during periods of peak demand, high wholesale price conditions, and/or generation emergency conditions during the summer months. This, of course, permits the Company to reduce demand during the key periods described.

Customers receive monetary rewards, depending on the level of participation they select. Customers selecting the option that moderately cycles their air conditioner, receive a \$25 credit at installation. Customers selecting the longer cycling option, receive a \$35 credit at installation. Customers also receive annual credits during the months of May - September depending on the program they signed-up for. Customers that sign up for the moderate control option receive an annual event credit of \$2.40 per month for each year they are on the program and customers that sign up for the longer control option receive an annual event credit of \$3.60 per month each year they are on the program.

For this program, which Duke Energy Kentucky has run for over 19 years,³ the Company currently uses load control devices manufactured by Eaton's Cooper Power Systems for new installations and replacement of existing load control devices. These load control devices have built-in safeguards to prevent the "short cycling" of the air-conditioning system. The air-conditioning system will always run the minimum amount of time required by the manufacturer. The cycling simply causes the air-conditioning system to run less, which is no different than what it does on milder days. Additionally, the indoor fan will continue to run and circulate air during the cycling event. Thus, these load control

³ *Application of the Union Light, Heat and Power Company for Recovery of Costs for the Direct Load Control Program, and Adjustment of the 2004 DSM Cost Recovery Mechanism with Filing of the Amended Tariff Sheets for Gas Rider DSM and Electric Rider DSM*, Case No. 2003-00367, Order, pg. 1 (November 20, 2003).

devices enable demand-response and demand-flexibility while minimizing any impact to the customer's comfort.

The Company's Power Manager program, offered for nearly two decades, is highly-rated by customers and is cost-effective. Participating customers cite the program's ability to allow them to reduce their electric bills, while experiencing minimal impacts to their comfort.

2. Peak Time Rebate (PTR) Pilot Program.

Duke Energy Kentucky also currently offers a Peak Time Rebate Pilot Program (PTR Pilot program), where customers have the opportunity to earn credits by reducing usage during Critical Peak Events (CPEs).⁴ The original group of participants in the program (Group 1) are currently participating under the original program design, as detailed below. At the same time, the Company has implemented an extension to the PTR Pilot program, with a different group of participants (Group 2 and Group 3), to see if changes to the incentive amount for reducing usage during CPEs improves cost-effectiveness. Data from the first two years of the PTR Pilot program has shown the program to not be cost-effective and the Company has therefore requested to discontinue it.⁵

The PTR pilot program launched on July 27, 2020, with Group 1, consisting of 899 participants. These initial participants have recently completed the 2-year pilot period and

⁴ See generally, *In the Matter of the 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*, Case No. 2016-00152, Order (May 25, 2017).

⁵ *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc. to Amend its Demand Side Management Programs*, Case No. 2022-251, Application (August 15, 2022).

are now participating in year 3. For purposes of counting the number of events each year for Group 1, the Company designated the following yearly periods:

- July 27, 2020, through July 31, 2021
- August 1, 2021, through July 31, 2022
- August 1, 2022, through July 31, 2023 (or program end, if earlier).

As of August 18, 2022, 689 participants remained active in Group 1, with attrition mostly due to customers moving.

In May 2022, the Company launched a PTC pilot extension approved by the Commission to test the impact of changes in the incentive amount offered to participants to reduce load during CPEs. This research extension has two groups of participants, Group 2 (receiving a credit of \$0.60 / kWh reduced) and Group 3 (receiving a credit of \$1.20 / kWh reduced). Using identical methods for acquiring customers as for Group 1 originally, 679 customers enrolled in Group 2 and 667 customers enrolled in Group 3. Current participation levels as of August 18, 2022, for Groups 2 and 3 are 659 and 658 respectively. The incentive amount did not appear to drastically impact the number of customers interested in enrolling in the pilot and participating throughout the summer.

Non-Residential Customers

Duke Energy has offered the voluntary PowerShare® demand-response program to its non-residential customers since it was first approved in Case No. 2006-00172 on December 21, 2006.⁶ The PowerShare® program is open to customers who are able to provide 100 kW or more of demand response and offers customers the opportunity to reduce their electric costs by managing their electric usage during events identified by the

⁶ PowerShare® is the brand name given to Duke Energy Kentucky's Peak Load Management Program (Rider PLM, Peak Load Management Program KY.P.S.C. Electric No. 2, Sheet No. 77).

Company during the Company's peak load periods.⁷ In PowerShare®, the customer and the Company enter into a service agreement under Rider PLM, which offers two product options under which the customer agrees to reduce usage, as detailed below: CallOption® and QuoteOption®.

Under the CallOption® product, which allows the customer to select one of two levels of participation,⁸ a customer agrees to reduce demand upon notification by Duke Energy Kentucky and receives credits in exchange. The customer receives an energy credit for the energy reduced and also an option premium credit. The two available options are (dates given are for most recent offering):

- Summer Period
 - June through October 2021, May 2022
 - Maximum event length of 12 hours
 - No maximum on curtailment events

- Annual
 - June 2021 through May 2022 (full year)
 - Maximum event length of 12 hours in June through October 2021 and May 2022, and 15 hours November 2021 through April 2022
 - No maximum on curtailment events

Under the QuoteOption® product, the customer is able to decide whether to reduce demand after receiving a notification from the Company in exchange for an energy credit. The Company sends the customer a notification when the average wholesale market price for energy is greater than a pre-determined strike price and provides a price quote to the customer for each event hour. If the customer decides to reduce demand, the customer

⁷ For the 2021/2022 program year, there was only one type of event: emergency event implemented due to reliability concerns.

⁸ A third option that limited the number of curtailment events and only ran June through September was discontinued as of May, 31, 2022, due to PJM no longer allowing resources with limited numbers of curtailment events to register.

notifies the company and provides an estimate of the projected load reduction. Since the customer's demand reduction is voluntary each time, the customer does not receive an additional premium credit, but receives only an energy credit for the amount reduced.

The Company's customers have been highly satisfied with the PowerShare® program and the program is also cost-effective.

B. Appropriate measures to promote greater the use of demand-response and demand flexibility practices by commercial, residential, and industrial consumers to reduce electricity consumption during periods of unusually high demand.

Continuing Existing Programs

Duke Energy Kentucky believes that its customers would benefit from the continuation of both PowerShare® and PowerManager® programs, which it is continuously refining and improving. With regard to PowerManager® in particular, ongoing evaluation, measurement, and verification (EM&V) is conducted through a sample of Power Manager® customers with devices that record hourly run-time of the air conditioner unit and with load research interval meters that measure the household kWh usage. Operability studies are also used to measure the performance of Power Manager® load control devices in Kentucky. Customers continue to benefit from these programs and their cost-effectiveness makes them appropriate to continue.

Additional Programs Being Considered By The Company For Pilot Or Offer

The Company believes that additional rates and/or programs could be appropriate to promote greater use of demand-response and demand flexibility practices by commercial, residential, and industrial consumers to reduce electricity consumption during periods of unusually high demand. The Company also sees potential in increasing co-promotion of one or more programs and/or rates to eligible customers.

The options being considered by the Company at this time include offerings for both residential and non-residential customers:

- An optional residential critical peak pricing (CPP) rate for its Kentucky service area. This rate could potentially be combined in some fashion with one or more other programs.
- An optional Bring Your Own Thermostat (BYOT) demand response program. This option would replace the load control switch on a customer's HVAC unit with a controllable thermostat that can be set back during peak periods as the means to control a customer's load.
- An optional hot water heater demand response program. Load control devices would be installed to enable Duke Energy Kentucky to cycle electric water heaters during times of high electric demand.
- A rooftop solar incentive program, possibly co-promoted or combined with other elements such as BYOT and/or CPP or others.

The Company is also open to considering what new ideas may arise prior to the Company filing revised net metering tariff sheets.

As Duke Energy Kentucky considers what additional programs, measures, and rates may be appropriate to promote demand-response and demand-flexibility, the Company believes that it will be important to consider how customers will benefit. Among other things, the Company believes it is important to be prudent in giving due consideration to the cost-effectiveness of any proposed programs. There may be scenarios where a non-cost-effective program is reasonable. For example, low-income programs have historically

been offered despite being less or not cost-effective. Or there may be other benefits that justify a lack of cost-effectiveness.

IV. CONCLUSION

Duke Energy Kentucky appreciates the opportunity to offer its comments regarding demand-response practices and hopes that its comments will aid the Commission as it considers the standards established by the PURPA amendments.

Respectfully submitted,

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CERTIFICATE OF SERVICE

This is to certify that the foregoing electronic filing is a true and accurate copy of the document being filed in paper medium; that the electronic filing was transmitted to the Commission on December 16th, 2022; and there are currently no parties that the Commission has excused from participation by electronic means in this proceeding.

/s/Larisa M. Vaysman
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