COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF DUKE ENERGY KENTUCKY, INC. TO AMEND ITS DEMAND SIDE MANAGEMENT PROGRAMS	))))	Case No. 2022-00251

DUKE ENERGY KENTUCKY, INC.'S POST-HEARING BRIEF

Comes now Duke Energy Kentucky, Inc. (Duke Energy Kentucky or Company), by counsel, pursuant to the March 31, 2023, Order of the Kentucky Public Service Commission (Commission) and other applicable law, and does hereby tender its post-hearing Brief in support of the approval of its Application in this case, respectfully stating as follows:

I. INTRODUCTION

In its Application in the instant case, Duke Energy Kentucky seeks to terminate a pilot program which has failed the Commission's "traditional[]" test for cost-effectiveness repeatedly and consistently. As the Commission has previously explained, "[t]he Commission has traditionally evaluated DSM effectiveness by focusing on the Total Resource Cost (TRC) results," and "[a] TRC score of less than one indicates that the cost of the program outweighs the benefits."[1] After completing a 2-year pilot period and evaluating the TRC results, the Company reasonably concluded that the PTR Pilot Program was not anywhere close to cost-effectiveness and requested approval to terminate the program. Such approval should be granted; Duke Energy Kentucky's Application should be approved as filed.

[1] *In the Matter of Electronic Application of Duke Energy Kentucky, Inc. to Amend its Demand Side Management Programs*, Case No. 2019-00277, Order, p. 13 (Ky. P.S.C. April 27, 2020).

II. BACKGROUND

A. The PTR Pilot Program Was Implemented as Agreed, But Was Not Cost-Effective and Did Not Show Potential to Become Cost-Effective

The PTR Pilot Program that Duke Energy Kentucky seeks to terminate today was created pursuant to a Stipulation approved by the Commission in Case No. 2016-00152 (2017 Stipulation). In the 2017 Stipulation, the Company agreed to "design and propose for Commission review and approval, a Residential Peak-Time Rebate Voluntary Pilot (PTR Pilot Program)" in order to "collect the information from voluntary participants needed to properly evaluate the potential addition of a Peak-Time Rebate program that could be made available to all eligible residential customers."[2] The PTR Pilot Program was to be designed and proposed within six months of the completion of the Company's upgrade to AMI metering.

Duke Energy Kentucky designed and proposed the PTR Pilot Program for Commission approval in Case No. 2019-00277, which led to an additional Stipulation with the Office of the Attorney General (AG) (2020 Stipulation), that laid out a number of particulars for the program, including but not limited to:

- "The pilot will be targeted to enroll the lesser of 1,000 customers . . . or the number of participants Nexant recommends";
- An incentive of $0.60 per kWh of load reduction;
- To incorporate certain questions recommended by the AG's expert witness into the PTR Pilot Program evaluation;
- To provide eight summer, two winter, and two flexible CPEs.[3]

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[2] *In the Matter of Electronic 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, Appendix, p. 9 (Ky. P.S.C. May 25, 2017).

[3] *In the Matter of Electronic Application of Duke Energy Kentucky, Inc. to Amend its Demand Side Management*

The 2020 Stipulation was approved by the Commission on April 27, 2020, and the PTR Pilot Program launched on July 27, 2020.[4]

To recruit the initial pilot group, Duke Energy Kentucky emailed 59,605 eligible customers, 899 of whom (approximately 1.5%) enrolled within about two weeks of the initial outreach.[5] Since its initial launch, the PTR Pilot Program has completed a 2-year pilot period.[6] Duke Energy Kentucky engaged Nexant to complete an Evaluation, Measurement, and Verification (EM&V) report (the Report) on the PTR Pilot Program performance, which was provided to the Company on March 29, 2022.[7] The Report evaluated the program's performance over the Summer 2020, Winter 2021, and Summer 2021 seasons.[8] The Report noted that it "has produced a large amount of information that can help guide decision making regarding future similar offerings to a broader population of customers."[9]

The Report thoroughly evaluated key facets of the PTR Pilot Program. Among other things Nexant conducted a marketing survey of 259 program participants and 142 non-participants who had been recruited but decided not to enroll.[10] Based on a review of program data and survey data, the Report concluded, among other things, that:

- Both participants and non-participants showed the "highest approval" for "digital marketing methods," i.e., email;[11]

Programs, Case No. 2019-00277, Order, Appendix, pp. 3-7 (Ky. P.S.C. April 27, 2020).

[4] *See* Rebuttal Testimony of Bruce L. Sailers (Sailers Testimony), p. 4 (filed December 12, 2022).

[5] *See* Application, Appendix E, p. 10.

[6] *See* Sailers Testimony, p. 4.

[7] *See* Application, Appendix E, p. 1.

[8] *Id.*, p. 3.

[9] *Id.*

[10] *Id.*, p. 37.

[11] *Id.*, p. 38.

- The $0.60/kWh incentive was "approximately in the middle of the road in terms of incentive amounts" compared to PTR programs at other utilities;[12]
- "The results from the Duke Energy Peak Time Credit program were in line with the results seen in other programs";[13] and
- Load impacts observed in 2021 "were more in line with impacts seen from similar PTR programs at other utilities" than load impacts observed in 2020.[14]

In a companion report, attached to the Application as Appendix F, Duke Energy Kentucky evaluated the PTR Pilot Program's cost-effectiveness using the TRC test.[15] The PTR Pilot Program, as completed through Summer 2021, received a TRC score of 0.20. The Company also projected a TRC score for a "full" PTR Program, *i.e.*, a non-pilot program open to all eligible customers. The Company assumed, based on participation in the Pilot PTR Program as well as the 2022 Summer extension, that 2,005 customers would participate in such a program. This generated a projected TRC score of 0.32,[16] far short of the 1.0 necessary to declare a program cost-effective (or at least cost-neutral).

B. Duke Energy Kentucky Filed the Instant Application Requesting, Among Other Things, To Terminate the PTR Pilot Program

Duke Energy Kentucky filed its Notice of Intent to file an application to amend its demand side management programs on August 5, 2022. The application was subsequently filed on August 15, 2022. In its Application, the Company requested to terminate the PTR Pilot Program, due to its lack of cost-effectiveness, and noted that it would still go on to evaluate results from the a

12 *Id.*, p. 71.

13 *Id.*, p. 75.

14 *Id.*, p. 19.

15 *See* Application, Appendix F, pp. 6-7.

16 *Id.*, p. 7.

Summer 2022 pilot research extension and continue to consider possible future uses of PTR.[17] Additionally, Duke Energy Kentucky requested approval for certain programmatic changes to the Residential Smart $aver® Energy Efficiency Residences program: baseline increases and new minimum energy efficiency standards for certain equipment.[18]

A motion to intervene was filed by the AG on August 24, 2022 and granted by the Commission in an Order entered on August 31, 2022.

During discovery, Duke Energy Kentucky responded to three rounds of pre-hearing information requests from Commission Staff on September 8, October 3, and October 21, 2022, and two rounds of information requests from the AG on September 9 and October 7, 2022. The AG submitted expert testimony from one witness, Mr. Paul Alvarez, on November 9, 2022, and provided responses to information requests from the Company on December 5, 2022. Duke Energy Kentucky tendered the Rebuttal Testimony of Mr. Bruce L. Sailers on December 12, 2022.

In parallel, as this case was proceeding, Duke Energy Kentucky filed its annual application for cost recovery for DSM programs on November 15, 2022 in Case No. 2022-00398. In that application, among other things, the Company included the programmatic changes to the Residential Smart $aver® Energy Efficiency Residences program.[19] The Commission approved that application—leaving open only the question of the PTR Pilot Program at issue in this proceeding—on March 7, 2023.[20]

A hearing was held in this case on Tuesday, March 28, 2023. Following the hearing, a post-hearing procedural Order was entered on March 31, 2023, and post-hearing data requests to the

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[17] *See* Application, p. 6.

[18] *Id.*, pp. 4-5.

[19] *In the Electronic Annual Cost Recovery Filing for Demand Side Management by Duke Energy Kentucky, Inc.*, Case No. 2022-398, Application, p. 8 (Ky. P.S.C. November 15, 2022).

[20] *Id.*, Order, pp. 7-8 (Ky. P.S.C. March 7, 2023).

Company and the AG were issued on April 3, 4, and 5, 2023. Duke Energy Kentucky and the AG tendered their responses to the post-hearing data requests on April 14, 2023. Pursuant to the March 31, 2023, procedural Order, Duke Energy Kentucky files this post-hearing brief.

III. ARGUMENT

A. Commission Jurisdiction and Authority

The Commission has jurisdiction to "determine the reasonableness of demand-side management plans proposed by any utility under its jurisdiction."[21] The "[f]actors to be considered in this determination include, but are not limited to":

> (a) The specific changes in customers' consumption patterns which a utility is attempting to influence;
> (b) The cost and benefit analysis and other justification for specific demand-side management programs and measures included in a utility's proposed plan;
> (c) A utility's proposal to recover in rates the full costs of demand-side management programs, any net revenues lost due to reduced sales resulting from demand-side management programs, and incentives designed to provide positive financial rewards to a utility to encourage implementation of cost-effective demand-side management programs;
> (d) Whether a utility's proposed demand-side management programs are consistent with its most recent long-range integrated resource plan;
> (e) Whether the plan results in any unreasonable prejudice or disadvantage to any class of customers;
> (f) The extent to which customer representatives and the Office of the Attorney General have been involved in developing the plan, including program design, cost recovery mechanisms, and financial incentives, and if involved, the amount of support for the plan by each participant, provided however, that unanimity among the participants developing the plan shall not be required for the commission to approve the plan;
> (g) The extent to which the plan provides programs which are available, affordable, and useful to all customers; and
> (h) Next-generation residential utility meters that can provide residents with amount of current utility usage, its cost, and

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[21] KRS 278.285(1).

can be capable of being read by the utility either remotely or from the exterior of the home.[22]

As the applicant, Duke Energy Kentucky bears the burden of proof to demonstrate that it is entitled to the relief which it seeks.[23]

B. Relief Requested by Duke Energy Kentucky

For the reasons set forth herein, Duke Energy Kentucky's Application should be approved in its entirety and without modification.

C. The Changes Proposed by Duke Energy Kentucky to Its DSM Program Portfolio Are Reasonable and Therefore the Application Should Be Approved

1. The Company's Proposal to Terminate the PTR Pilot Program Is Reasonable

a. <u>The PTR Pilot Program Is Not Cost-Effective and Shows No Potential to Become Cost-Effective Under the Traditional TRC Test</u>

There is no dispute in this case regarding whether Duke Energy Kentucky implemented the PTR Pilot Program in accordance with the 2017 Stipulation; even the AG concedes that it has done so.[24] And the outcome has demonstrated that termination of the existing program is the most reasonable course of action. The PTR Pilot Program received a TRC score of 0.20, and a projected TRC score of 0.32 for a full implementation. Neither score is even close to the 1.0 or above that is necessary to declare a program cost-effective.

Under KRS 278.285(1), factors (b), (c), (e), and (g), weigh in favor of terminating the PTR Pilot Program, while the remaining factors are neutral. With regard to factor (b), the cost-benefit analysis—as summarized by the TRC score—clearly indicates that the program is not cost-effective and should not be continued. Factor (c), under which a proposal is expected to "encourage implementation of cost-effective demand-side management programs" also militates in favor of

[22] *Id.*

[23] *See Energy Regulatory Comm'n v. Kentucky Power Co.*, 605 S.W.2d 46, 49 (Ky. App. 1980).

[24] *See* AG Responses to Duke Energy Kentucky's First Request for Information, Items 17 and 18.

discontinuing a program that is not cost-effective. Factors (e) and (g), which deal with fairness across customer classes, likewise weigh in favor of a cost-ineffective DSM program that offers a monetary incentive to the small class of participants while effectively subsidizing its deficits with funds from the remaining residential ratepayers. For these reasons, Duke Energy Kentucky's proposal to terminate the PTR Pilot Program should be approved.

b. Mr. Alvarez's Recommendation to Expand the PTR Pilot Program to A "Full" Program Is Based on Speculative and Baseless Assumptions

Mr. Alvarez's recommendation to expand the PTR Pilot Program to a full program disregards the ***actual*** outcomes of the existing pilot as unrepresentative and proposes instead to rely on an alternative analysis that rests on numerous speculations, two of which are especially egregious. First, Mr. Alvarez projects a 20% participation rate—which translates into 26,616 customers in the first year—in the future full PTR program.[25] Second, Mr. Alvarez projects 4% energy conservation by those customers.[26] Neither of these extremely aggressive projections is based on the existing pilot, on any Kentucky program, or even on any program whose data Mr. Alvarez has personally reviewed.[27] Thus, Mr. Alvarez's recommendation should be disregarded by the Commission.

Mr. Alvarez's projection of a 20% participation rate is exponentially out of line with the observed participation rate in the PTR Pilot Program of approximately 1.5%. Indeed, Mr. Alvarez himself acknowledged that his projection of a 20% participation rate is "aggressive."[28] Mr.

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[25] *See* Direct Testimony of Paul Alvarez (Alvarez Testimony), p. 27 (filed Nov. 9, 2022).

[26] *Id.*, p. 29.

[27] *See* Paul Alvarez Cross-Examination, Hearing Video Record (HVR) at 05:52:48 to 05:53:42 (absence of full Kentucky PTR programs); *id.* at 06:06:20 to 06:06:55 (pertaining to the participation rate projection); Paul Alvarez Cross-Examination, Confidential Hearing Video Record (Confidential HVR) at 00:02:46 to 00:02:52, 00:03:11 to 00:03:18, and 00:05:40 to 00:06:08 (pertaining to energy conservation projections) (Mar. 28, 2023).

[28] Paul Alvarez Cross-Examination, HVR at 05:52:04.

Alvarez's wildly optimistic projection rests primarily on two bases: (1) a paper titled "Residential Customer Enrollment in Time-based Rate and Enabling Technology Programs," (Time-based Rate Paper)[29] and (2) speculation that additional marketing would have increased enrollment.

The Time-based Rate Paper which Mr. Alvarez cites does not examine PTR programs at all, but rather examines time-based rates generally. Only three of the programs examined even offered a peak-time rebate component (referred to as "CPR" in the paper),[30] and even one of those three programs—the one with the highest participation rate of 29%—only offered CPR as a ***possible*** choice.[31] As Mr. Alvarez acknowledged, he has no knowledge how many of the participants in that program—which was the only one cited with participation at or above 20%—actually opted for the "Flat w/CPR" component as opposed to the "Flat w/CPP, IHD" option of critical peak ***pricing*** paired with a free device.[32] It is entirely possible that the participation was primarily driven by the critical peak pricing rate offer and not the CPR (aka PTR) offer. As Mr. Alvarez himself also acknowledges, he did not examine any of the reports on the individual programs or the underlying data pertaining to the programs reviewed in the paper.[33] Furthermore, the very paper relied on so heavily by Mr. Alvarez for a 20% participation rate itself does not endorse a 20% participation projection, stating explicitly that, "for planning purposes assuming 10% recruitment rate seems most appropriate."[34] Thus, the Time-based Rate Paper is insufficient

[29] *See* AG Exhibit No. 1; Alvarez Testimony, p. 21.

[30] *See* AG Exhibit No. 1, pp. 9-10 (defining "CPR") and p. 23; Alvarez Testimony, p. 21; Paul Alvarez Cross-Examination, HVR at 06:03:50 to 06:04:20.

[31] *See* AG Exhibit No. 1, p. 23 (program described as "Flat w/CPR or Flat w/CPP, IHD"); *see also* Paul Alvarez Cross-Examination, HVR at 06:04:43.

[32] *See* Paul Alvarez Cross-Examination, HVR at 06:05:30 to 06:05:56.

[33] *Id.*, at 06:06:20 to 06:06:55.

[34] *See* AG Exhibit 1, p. 23.

to support Mr. Alvarez's recommendation to ignore the ***actual*** demonstrated participation rate of 1.5% in the PTR Pilot Program in favor of a vastly inflated 20% projection.

In addition to the Time-based Rate Paper, Mr. Alvarez speculates that the program would have had a higher participation rate with additional marketing channels and/or iterations.[35] These assertions are speculative and unsupported by the results of the marketing survey from the actual PTR Pilot Program. Both participants and non-participants showed the "highest approval for digital marketing methods."[36] Non-participants—the population to whom Mr. Alvarez's speculation would be most relevant—rated their preference for email as an 8.0 on a 10.0 scale, while rating text messages as only a 5.9 on a 10.0 scale.[37] The notion that irritating non-participants with additional means of communication which they do not prefer would improve participation from 1.5% to 20% is simply not plausible.

In addition to relying on a speculative and inflated participation rate, Mr. Alvarez's projection of a cost-effective full PTR Program relies heavily on a projection of an average of 4% energy conservation by this vast number of participants. Indeed, even assuming the 20% participation rate as a given for the sake of argument, Mr. Alvarez's projection of energy conservation accounts for nearly half of the projected benefits in his cost-benefit analysis.[38] Mr. Alvarez obtains this 4% estimate from a paper which he himself describes as "a review of 24 studies of TOU rates."[39] In other words, this paper did not review PTR programs at all, but time-of-use rates generally, which Mr. Alvarez takes pains to distinguish and criticize elsewhere in his

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[35] *See* Alvarez Testimony, p. 21.

[36] *See* Application, Appendix E, p. 38.

[37] *Id.*

[38] *See* Alvarez Testimony, Appendix B; Paul Alvarez Cross-Examination, Confidential HVR at 00:02:07 to 00:02:45.

[39] *See* Alvarez Testimony, p. 23.

testimony.[40] Mr. Alvarez conceded at hearing that he does not know whether this paper reviewed even a single PTR program.[41] Furthermore, he conceded that he did not personally review a single one of the individual reports of the 24 studies the paper reviewed, much less any of the underlying data of any of the studies.[42] For these reasons, as well as the reasons recounted in Mr. Sailers' testimony,[43] Mr. Alvarez's projections of energy conservation should be disregarded entirely.

2. If the Commission Orders the Continuation of the PTR Pilot Program—Which It Should Not—The Commission Should Authorize an Initial Budget Equal to the Current Year's Budget and Authorization to Duke Energy Kentucky to Adjust the Initial Budget for Any Specific Programmatic or Research Elements Specified by The Commission

As described above, Duke Energy Kentucky seeks to terminate the PTR Pilot Program. The Company currently has budget dollars set aside for the PTR Pilot Program through June 30, 2023, but has not, at this time, sought authorization for budget amounts to continue the PTR Pilot Program past that point. If the Commission orders Duke Energy Kentucky to continue the PTR Pilot Program, with or without modifications, Duke Energy Kentucky respectfully requests that the Commission concomitantly authorize budget dollars for the program for the July 1, 2023 through June 30, 2024 program year and authorize the Company to adjust the initial budget for any modifications ordered by the Commission. An initial budget amount of $216,000, approximately the same as the budget amount for the July 1, 2022 through June 30, 2023 fiscal year,[44] should be sufficient to continue the pilot, while the Company assesses any additional amounts needed to implement any Commission-ordered modifications and prepares budget estimates for those changes. Additionally, in the event the Commission orders the continuation of

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[40] *Id.,* pp. 15-17.

[41] *See* Paul Alvarez Cross-Examination, Confidential HVR at 00:06:53 to 00:07:34.

[42] *Id.*, at 00:05:40 to 00:06:08.

[43] *See* Sailers Testimony, p. 9.

[44] *See* Application, Appendix B, p. 2.

the program, the Company respectfully requests the Commission to provide some guidance on the expected duration. This would aid the Company in its planning and in allocation of internal resources.

V. CONCLUSION

Duke Energy Kentucky respectfully requests that the Commission issue an Order approving the Application in its entirety and without modification. After over two years of running the PTR Pilot Program in full accordance with the 2019 Stipulation, it simply continues to fail to demonstrate cost-effectiveness and the most prudent decision at this time is to terminate this program, as proposed in the Company's Application in this case. Such termination will not preclude Duke Energy Kentucky from considering other, more promising programs and rates, to incentivize its customers to engage in demand-response actions. Duke Energy Kentucky appreciates the time and attention the Commission, Staff, and the AG have devoted to this matter and expresses its willingness to continue to be a constructive partner in assuring that Kentuckians' DSM program needs are adequately and safely served at fair, just, and reasonable rates.

WHEREFORE, on the basis of the foregoing, Duke Energy Kentucky, Inc., respectfully requests the Commission:

1) Approve the Application in its entirety and without modification; however, if the Commission orders continuation of the PTR Pilot Program, the Company respectfully requests such order provide for the program's budgeting needs, as described in Section II.C.2 above.

2) Grant all other relief to which Duke Energy Kentucky may be entitled.

This 26th day of April 2023.

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 in paper medium; that the electronic filing was transmitted to the Commission on April 26, 2023; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that submitting the original filing to the Commission in paper medium is no longer required as it has been granted a permanent deviation.[45]

/s/Larisa M. Vaysman
Larisa M. Vaysman

[45] *In the Matter of Electronic Emergency Docket Related to the Novel Coronavirus COVID-19,* Order, Case No. 2020-00085 (Ky. P.S.C. July 22, 2021).