

**BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Duke)
Energy Ohio, Inc., for Recovery of)
Program Costs, Lost Distribution) Case No. 18-397-EL-RDR
Revenue and Performance Incentives)
Related to its Energy Efficiency and)
Demand Response Programs.)

**DIRECT TESTIMONY OF
TRISHA A. HAEMMERLE
ON BEHALF OF
DUKE ENERGY OHIO, INC.**

March 29, 2018

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I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Trisha A. Haemmerle. My business address is 139 East Fourth
3 Street, Cincinnati, Ohio 45230

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am employed by Duke Energy Business Services, LLC (DEBS), as Senior
6 Manager, Strategy and Collaboration. DEBS provides various administrative and
7 other services to Duke Energy Ohio, Inc., (Duke Energy Ohio or the Company)
8 and other affiliated companies of Duke Energy Corporation (Duke Energy).

9 **Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL**
10 **QUALIFICATIONS.**

11 A. I graduated from Ohio University with a Bachelor's Degree in Marketing. I
12 started my career with Cinergy in 1997. I worked for Cinergy and Duke Energy
13 from 1997 to 2010 developing, managing, and analyzing survey activities, as well
14 as market research projects. Starting in 2009, I also managed the coordination of
15 verification for the energy efficiency and demand response programs. I assumed
16 my current position in 2010.

17 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC**
18 **UTILITIES COMMISSION OF OHIO?**

19 A. Yes, I submitted testimony in support of Duke Energy Ohio's application for
20 recovery of program costs, lost distribution revenue and performance incentives
21 related to its Energy Efficiency (EE) and Demand Response (DR) programs, Case
22 Nos. 14-457-EL-RDR, 15-534-EL-RDR, 16-0664-EL-RDR and 17-781-EL-RDR.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
2 **PROCEEDING?**

3 A. The purpose of my testimony in this proceeding is to discuss the history of Rider
4 Energy Efficiency-Peak Demand Response (EE-PDR), Duke Energy Ohio's
5 energy efficiency programs, and the successful achievement Duke Energy Ohio
6 has had with its current portfolio of programs. My testimony will also discuss
7 how the Company determines program cost-effectiveness and explain the
8 Company's evaluation, measurement and verification process (EM&V) used to
9 verify the results of its portfolio of programs, and the testimony of Duke Energy
10 Ohio witness James E. Ziolkowski will explain Rider EE-PDR and how it is
11 applied to the programs to determine cost recovery.

II. HISTORY OF RIDER EE-PDR

12 **Q. PLEASE EXPLAIN THE HISTORY OF RIDER EE-PDR.**

13 A. Duke Energy Ohio proposed the Rider EE-PDR energy efficiency and peak
14 demand cost recovery mechanism in its application in Case No. 11-4393-EL-RDR
15 that was filed on July 20, 2011. The Company's application requested approval
16 to implement Rider EE-PDR to replace Rider DR-SAW, which was due to expire
17 on December 31, 2011. The application also proposed a mechanism by which to
18 recover the costs it incurs in achieving the energy efficiency and peak demand
19 reduction targets set by S.B. 221, and to provide the Company with an incentive
20 to exceed the targets. The Public Utilities Commission of Ohio (Commission)
21 approved a Stipulation and Recommendation resolving intervening parties'
22 concerns and establishing Rider EE-PDR on August 15, 2012. In compliance with

1 the Order, Duke Energy Ohio submitted an updated portfolio filing, Case No. 13-
2 0431-EL-POR, to align the cost recovery mechanism with the portfolio of programs
3 on April 15, 2013. The case was approved on December 4, 2013. The Company
4 also filed and received approval for a new non-residential program, Small Business
5 Energy Saver.¹ The Company filed a new portfolio, Case No. 16-576-EL-POR, for
6 years 2017 – 2019 in 2016.

7 **Q. HAS DUKE ENERGY UPDATED ANY OF ITS PROGRAMS TO BE**
8 **OFFERED TO CUSTOMERS IN 2017 - 2019?**

9 A. Yes. Duke Energy Ohio filed a new portfolio in 2016 for program years
10 2017 – 2019. An amended stipulation with the majority of intervening parties
11 was submitted on January 22, 2017. On September 27, 2017 the amended
12 stipulation was approved by The Commission with modifications. Because the
13 Commission’s Order was issued in September of 2017, the Commission
14 recognized that the Company’s spending for 2017 might exceed the cap imposed.
15 Therefore, the Commission stated that it might permit the Company to exceed the
16 cap but would not permit shared savings for 2017. The Commission also stated
17 that the Company should not exceed the Portfolio Plan budget for programs for
18 calendar year 2017 absent obtaining a waiver from the Commission. On October
19 12, 2017 Duke Energy Ohio requested a waiver and the waiver was approved on
20 November 21, 2017. Consistent with the amended stipulation that the
21 Commission had approved, until the Company received approval of the 2017 –
22 2019 portfolio the programs, it continued to operate under the 2016 portfolio
23 guidelines.

¹ Case No. 14-964-EL-POR approved on September 10, 2014.

1 **Q. PLEASE SUMMARIZE THE COST RECOVERY AND INCENTIVE**
2 **MECHANISM UNDERLYING RIDER EE-PDR THAT WAS APPROVED**
3 **IN CASE NO. 16-576-EL-POR.**

4 A. Under Rider EE-PDR, the Company is entitled to recover the costs prudently
5 incurred to deliver energy efficiency and peak demand reduction programs.
6 Additionally, under Rider EE-PDR, the Company is entitled to earn a shared
7 savings incentive based upon its ability to *exceed* its annual efficiency savings
8 benchmark targets that are mandated by Ohio law. In Case No. 16-576-EL-POR,
9 the Commission approved recovery of lost distribution margins from all customer
10 classes not included in the Company's pilot distribution decoupling rider (i.e.,
11 those customers receiving service under Rates DS, DP, and TS).

12 **Q. PLEASE DESCRIBE HOW THE COMPANY'S APPROVED SHARED**
13 **SAVINGS MECHANISM WORKS.**

14 A. The Company's shared savings incentive structure is designed to incentivize the
15 Company for exceeding its energy efficiency benchmark in the most cost-
16 effective manner possible. Under this incentive structure, the level of incentive,
17 or the magnitude of the percentage of the net system benefits (avoided costs less
18 the costs of delivering the efficiency) that the Company may earn, is tiered and
19 can range from 6.0% up to 12.0%, depending on the degree by which the actual
20 efficiency savings exceeds its energy savings benchmark. Please see Table 1
21 below.

Table 1	
Achievement of After-Tax Shared	
Annual Target	Savings
≤ 100	0.0%
> 100 - 106	6.0%
> 106 - 112	9.0%
> 112	12.0%

1 This shared savings mechanism allows Duke Energy Ohio an opportunity to
2 recover its costs and earn an incentive for exceeding the mandated benchmarks.

3 **Q. DOES THE SHARED SAVINGS CALCULATION INCLUDE COST**
4 **INCURRED FOR MEASUREMENT AND VERIFICATION?**

5 A. Yes, consistent with the Commission’s Order in Case No. 13-753-EL-RDR, the
6 net benefit used in the calculation of shared savings includes cost incurred for
7 EM&V.

8 **Q. IS THE COMPANY’S SHARED SAVINGS MECHANISM APPROVED**
9 **FOR 2017?**

10 A. Although the Company’s shared savings incentive mechanism was approved in
11 Case No. 16-576-EL-POR, Duke Energy Ohio, pursuant to the Commission’s
12 Order, is not eligible to receive an incentive for 2017. As a condition of the
13 Commission’s waiver discussed above, Duke Energy is eligible to recover
14 EE/PDR program costs up to \$56 million, however, Duke Energy Ohio may not
15 recover any shared savings incentive for 2017.

16 **Q. PLEASE DESCRIBE THE LOST DISTRIBUTION REVENUE**
17 **RECOVERY ELEMENT CONTAINED IN THE CALCULATION OF**
18 **RIDER EE-PDR.**

1 A. The calculation of Rider EE-PDR includes the recovery of lost distribution
2 revenue for customers billed under schedules Rate DP, Rate DS, and Rate TS.
3 Unlike all other customers being billed under Rider EE-PDR, the customers under
4 these three rate schedules were excluded from the distribution revenue decoupling
5 pilot being recovered through Rider DDR. In order to eliminate the disincentive
6 created by the under-recovery of fixed costs from the customers who are not
7 served under the decoupling pilot, the Commission's order in Case No. 11-5905-
8 EL-RDR authorized the Company to collect thirty-six months of lost distribution
9 margins associated with the impacts of its energy efficiency programs for these
10 customers.

11 **Q. DID THE COMMISSION'S ORDER INCLUDE A PROVISION FOR**
12 **RECEIVING CARRYING COSTS FOR OVER- OR UNDER-**
13 **COLLECTION OF LOST MARGINS?**

14 A. No. Any over- or under-collection of lost margins is to be determined without
15 including carrying costs.

III. OVERVIEW OF PORTFOLIO PERFORMANCE

16 **Q. WHAT ENERGY EFFICIENCY AND DEMAND RESPONSE PROGRAMS**
17 **WERE ULTIMATELY OFFERED TO DUKE ENERGY OHIO**
18 **CUSTOMERS UNDER RIDER EE-PDR IN 2017?**

19 A. The portfolio of programs approved for inclusion in Rider EE-PDR included the
20 following programs:

- 21 ○ Residential Energy Assessments
- 22 ○ Smart Saver[®] Residential

- 1 ○ Low Income Services
- 2 ○ Energy Efficiency Education Program for Schools
- 3 ○ Power Manager for Residential Customers
- 4 ○ My Home Energy Report
- 5 ○ Nonresidential Energy Assessments
- 6 ○ Smart \$aver[®] Prescriptive
- 7 ○ Smart \$aver[®] Custom
- 8 ○ Power Share for Nonresidential Customers
- 9 ○ Low Income Neighborhood Program
- 10 ○ Low Income PWC Pilot
- 11 ○ Small Business Energy Saver

12 **Q. HAS DUKE ENERGY UPDATED ANY OF ITS PROGRAMS TO BE**
13 **OFFERED TO CUSTOMERS IN 2018?**

14 A. Yes. Duke Energy Ohio filed a new portfolio in 2016 for program years 2017 –
15 2019. Duke Energy Ohio added Power Manager[®] for Business which is a demand
16 response program for small and medium non-residential customers. Also various
17 measures were added and changed within the portfolio. Other programs and
18 measures were approved but due to program funding limits created by the
19 Commission imposed portfolio cost cap, in 2018, the program operations have
20 been designed to stay within defined spending limitations resulting in certain
21 programs and measures to be removed from the portfolio.

1 **Q. DID DUKE ENERGY OHIO OFFER ANY OTHER PROGRAMS DURING**
2 **2017 THAT WERE NOT INCLUDED IN CASE NO. 16-576-EL-POR?**

3 A. Yes. Consistent with Rule 4901:1-39-05(G) O.A.C., and the Commission's
4 Opinion and Order in Case No. 10-834-EL-POR, Duke Energy Ohio has offered
5 eligible customers the opportunity to participate in the Ohio Mercantile Self-
6 Direct Rebate Program.

7 **Q. DID DUKE ENERGY OHIO PARTICIPATE IN THE PJM**
8 **INTERCONNECTION, INC. BASE RESIDUAL AUCTION?**

9 A. Yes. All eligible² and cost effective³, PJM approved MW resources were bid into
10 the 2020/2021 BRA. This resulted in 41.9 MWs from energy efficiency and 30
11 MWs from DR resulting in 71.9 MWs clearing in the 2020/2021 auction. When
12 the clearing MW revenue is collected, it will be allocated back to programs after
13 all administrative and EM&V costs are covered. Revenue offset is allocated back
14 to program based on percentage of MWs clearing each auction and customer class
15 and the net offset will be shared with the Company at its approved shared savings
16 percentage as applicable. Duke Energy Ohio kept the Duke Energy Community
17 Partnership (the Collaborative) updated throughout 2017 regarding the auction
18 process.

19 **Q. HAS DUKE ENERGY OHIO BEEN SUCCESSFUL IN MEETING ITS**
20 **TARGETED MANDATES FOR ENERGY EFFICIENCY AND PEAK**
21 **DEMAND REDUCTION?**

² "Eligible" is defined as existing and planned energy efficiency savings and demand response that comply with PJM Manuals 18 and 18b.

³ "Cost effective" is defined as the projected auction revenues are greater than the projected costs for existing and planned energy efficiency and demand response, where the phrase "projected auction revenues" is defined as the estimated kW multiplied by the previous BRA clearing price for the Duke zone and "projected costs" are defined as the costs necessary to fully qualify and bid the resources into the PJM capacity auctions.

1 A. Duke Energy Ohio successfully met the 2017 statutory mandates for energy
2 efficiency and peak demand of 1,517,974 MWh and its peak reduction mandate of
3 308.1 MW.

4 **Q. WHAT PROGRAMS WERE THE PRIMARY CONTRIBUTORS TO THE**
5 **COMPANY'S SUCCESS DURING 2017?**

6 A. While the Company is pleased with the performance of its overall portfolio of
7 programs that were deemed cost effective by the total resource cost test, the Smart
8 Saver[®] Programs: Smart Saver[®] for Residential Customers and Smart Saver[®]
9 Prescriptive and Custom for Nonresidential Customers continue to dominate the
10 portfolio. Together these programs accounted for over 195,000 MWh, 60%, of
11 the total impacts recognized in 2017. These programs continue to flourish in
12 large part due to the attractiveness and expansion of LED lighting options
13 available to customers.

14 **Q. IS DUKE ENERGY OHIO'S ACHIEVEMENT LEVEL VERSUS ITS**
15 **BENCHMARKS THE SAME ACHIEVEMENT THAT THE COMPANY IS**
16 **USING TO CALCULATE ITS PERFORMANCE FOR THE PURPOSES**
17 **OF CALCULATING ITS EARNED INCENTIVE LEVEL FOR 2017?**

18 A. Yes, the Company's achievement level for benchmark achievement is the same as
19 the achievement level to earn incentive.

20 **Q. PLEASE DESCRIBE HOW THE COMPANY'S MERCANTILE SELF-**
21 **DIRECT REBATE PROGRAM HAS BEEN FACTORED INTO THE**
22 **CALCULATION OF RIDER EE-PDR.**

1 A. While the impacts and associated net benefits from the Mercantile Self-Direct
2 Rebate Program have been excluded from the calculation of the Company's
3 shared savings incentive, the program costs associated with Mercantile Self-
4 Direct Rebate Program are included for recovery in the calculation of Rider EE-
5 PDR.

6 **Q. HAS THE COMPANY INCLUDED ANY COSTS OR IMPACTS FROM**
7 **TRANSMISSION AND DISTRIBUTION INVESTMENTS THAT REDUCE**
8 **LINE LOSSES IN THE CALCULATION OF ITS SHARED SAVINGS**
9 **INCENTIVE IN RIDER EE-PDR?**

10 A. No, the Company has not counted any of the net benefits associated with the
11 impacts from investments in transmission and distribution systems that reduce
12 line losses in the calculation of its shared savings incentive.

13 **Q. HAS THE COMPANY COMPLIED WITH ALL OF THE DIRECTIVES**
14 **FROM THE COMMISSION IN ITS OPINION AND ORDER IN THE 16-**
15 **0576-EL-POR CASE?**

16 A. Yes. Duke Energy Ohio believes that it has complied with the directives set forth
17 in that Opinion and Order. For example, the Commission directed the Company
18 to continue to work with its Collaborative and to file specific information in its
19 status reports. The Company has held Collaborative meetings, with significant
20 participation on 03/29/17, 06/28/17, 09/06/17, and 12/05/17.

21 Additionally, the Company has filed full and complete status reports in
22 Case Nos. 10-0317-EL-EEC, 11-1311-EL-EEC, 12-1477-EL-EEC, 13-1129-EL-
23 EEC and 14-456-EL-EEC, 15-454-EL-EEC, 16-0513-EL-EEC, 17-689-EL-EEC

1 and 18-396-EL-EEC⁴. Finally, the Company is filing this true-up in accordance
2 with the Stipulation and Recommendation and the Commission's Order in Case
3 No. 16-0576-EL-POR.

**IV. OVERVIEW OF EVALUATION, MEASUREMENT,
AND VERIFICATION**

4 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY ON EVALUATION,
5 MEASUREMENT AND VERIFICATION (EM&V)?**

6 **A.** This section of my testimony (1) provides an overview of the programs on which
7 Evaluation, Measurement and Verification (EM&V) activities were performed in
8 2017, (2) provides the current findings from the Company's EM&V work, and (3)
9 demonstrates how the results from the EM&V process will be used in the true-up.

10 **Q. WHAT PROGRAMS RECEIVED EVALUATION, MEASUREMENT &
11 VERIFICATION IN 2017?**

12 **A.** The table below provides the detailed, completed EM&V reports for 2017:

Attachment	Program	Evaluation Type	Report Date
1	Impact and Process Evaluation of the 2016 Power Manager® Program	Process and Impact	March 2017
2	Impact and Process Evaluation of the 2016 PowerShare® Program	Process and Impact	February 2017
3	Small Business Energy Saver Evaluation	Process and Impact	April 2017
4	Smart \$aver® Residential - HVAC	Process and Impact	September 2017
5	Neighborhood Energy Saver	Process and Impact	November 2017
6	Save Water and Energy Kits	Process and Impact	November 2017

⁴ To be filed by May 15, 2018

1 Additionally, the Company will provide the reports presented here as Appendices
2 D - I as appendices in its annual energy efficiency status report, Case No. 18-396-
3 EL-EEC, to be filed later this year.

4 **Q. HAS THE COMPANY ADOPTED ANY OF THE NEW IMPACT**
5 **COUNTING PROVISION ESTABLISHED IN S.B. 310?**

6 A. Yes, the Company is operating under the new impact counting provisions
7 established by S.B. 310.

8 **Q. HOW WERE THE EVALUATION, MEASUREMENT, AND**
9 **VERIFICATION RESULTS UTILIZED IN DEVELOPING ESTIMATES**
10 **OR TRUE-UPS FOR THE EE RIDER?**

11 A. The original projection of program cost-effectiveness utilized projected numbers
12 for participants in the programs and estimates of the load impacts per participant,
13 derived either from initial estimates, previous EM&V results or deemed savings
14 as established by S.B. 310. The Company has measured actual participation and
15 uses this actual participation information as the basis for annual true-ups of
16 estimated incentives for the rider by multiplying the actual participation by the
17 current estimates of load impact per participant.

18 For those programs on which EM&V has been performed since the filing, the
19 higher of the evaluated estimates of energy efficiency and/or peak demand
20 impacts and net-to-gross ratio or the deemed⁵ values are applied prospectively to
21 adjust subsequent impact assumptions until superseded by new EM&V results, if
22 any. The evaluated impacts identified in the EM&V report for a program, if found

⁵ Per Sec. 4928.662(B)

1 to be higher than the deemed savings, are applied to the rider in the month⁶
2 following the completion of the EM&V report. When applicable, these results
3 will also be used to estimate future target achievement levels for development of
4 estimated incentives and in future cost-effectiveness evaluations⁷.

5 **Q. WHAT DATA WERE USED IN THE CALCULATION OF THE**
6 **REVENUE REQUIREMENT PROVIDED BY DUKE ENERGY OHIO**
7 **WITNESS JAMES E. ZIOLKOWSKI?**

8 **A.** The revenue requirement was calculated using both data inputs and outputs from
9 the DSMoreTM model, including initial estimates or estimated energy savings,
10 program costs and avoided costs. In addition, the costs of the independent
11 measurement and verification activities, which are not used as an input to the
12 DSMoreTM model, are also included in the calculation of revenue requirements.

13 **Q. WERE ATTACHMENTS 1 – 6 PREPARED BY YOU OR AT YOUR**
14 **DIRECTION?**

15 **A.** The EM&V reports were prepared by Nexant, Navigant, and Opinion Dynamics,
16 all of which are Duke Energy Ohio's independent third party evaluators.

V. CONCLUSION

17 **Q. PLEASE DESCRIBE THE COMPANY'S OVERALL ENERGY**
18 **EFFICIENCY AND PEAK DEMAND REDUCTION PORTFOLIO**
19 **PERFORMANCE IN 2017.**

20 **A.** Duke Energy Ohio's portfolio of programs continued to perform exceptionally
21 well in 2017 and delivered cost effective energy savings that exceeded the

⁶ Impacts for demand response programs are applied at the beginning of the next program cycle.

⁷ For demand response programs, the contracted amounts of kW reduction capability from participants are considered to be components of actual participation.

1 projected impacts included in Case No. 17-689-EL-EEC by over 24%. The
2 success has allowed customers that participated in its programs to take control of
3 their energy usage and realize significant bill savings, as well as allowing all
4 Duke Energy Ohio customers to realize the benefits of millions of dollars of
5 avoided system costs. In fact, the net present value of the system avoided costs
6 associated with the 2017 energy and capacity achievements from its portfolio of
7 programs is over three times the program cost incurred to achieve the impacts.

8 **Q. HAS DUKE ENERGY PROPOSED ANY NEW PROGRAMS TO ASSIST**
9 **IN MEETING THE INCREASING ANNUAL BENCHMARK?**

10 A. Duke Energy Ohio filed a new portfolio of programs for the 2017 – 2019 program
11 years which included updated measures, as well as, Power Manager[®] for
12 Business. Other programs and measures were approved but due to program
13 funding limits created by the Commission imposed portfolio cost cap, in 2018, the
14 program operations have been designed to stay within defined spending
15 limitations.

16 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

17 A. Yes, it does.