BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc., for Approval of its 2021 Energy Efficiency and Demand Side Management Portfolio of Programs and Cost Recovery Mechanism.	))))	Case No. 20-1013-EL-POR
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval of Tariff Amendments.	))	Case No. 20-1114-EL-ATA

DUKE ENERGY OHIO, INC.'S APPLICATION FOR APPROVAL OF ENERGY EFFICIENCY AND DEMAND SIDE MANAGEMENT PORTFOLIO OF PROGRAMS AND A COST RECOVERY MECHANISM

I. INTRODUCTION

Now comes Duke Energy Ohio, Inc, (Duke Energy Ohio or Company) pursuant to Rules 4901:1-39-04 and 4901:1-39-06, Ohio Administrative Code (O.A.C.), and submits its proposal for implementation of a new portfolio of energy efficiency (EE) and demand side management (DSM) programs to be offered during calendar year 2021 and proposal for a recovery mechanism. Duke Energy Ohio's proposal is to offer this new portfolio of programs on a voluntary basis, insofar as the statutory mandate for energy efficiency contained in R.C. 4928.66 has been amended by House Bill 6 and is being phased out pursuant to Commission Order.

Duke Energy Ohio is an electric distribution utility as defined in R.C. 4928.01(A)(6). Duke Energy Ohio's last statutorily mandated[1] portfolio of EE and DSM programs was approved on September 27, 2017 and recently extended through the end of 2020, with an increase in the plan's

[1] Pursuant to the statutory mandate in R.C. 4928.66, which has since been amended by House Bill 6 (effective October 22, 2019).

budget to include an amount equal to the annual average of the approved budget for all the years of the portfolio plan.[2] However, this portfolio is being wound down and will expire entirely at the end of 2020.

In this Application, the Company submits its proposed portfolio of energy efficiency programs for 2021, pursuant to O.A.C. 4901:1-39-04, and submits for approval a proposed rate adjustment mechanism for recovery of program costs, lost distribution revenues, and shared savings, pursuant to 4901:1-39-06. Although there is no longer a statutory mandate to achieve any particular amount of energy efficiency savings annually, there continue to be compelling reasons for the Company to be able to offer customers options to improve their energy efficiency, both for their own benefit and for the benefit of all customers in the Company's service area. The Commission has noted that "the Commission generally anticipates annual filings to be a continuation of prior year programs with minor revisions . . . ."[3] In the absence of a statutory mandate, the Company has substantially scaled down its previous offerings, resulting in a portfolio comprised primarily of residential programs and three programs focused on small and medium businesses. However, the programs selected have all been previously offered (and continue to be offered today) under the existing portfolio approved in Case No. 16-576-EL-POR. Thus, there is a certain amount of continuity in what customers will continue to see.

In support of its Application, Duke Energy Ohio also submits testimony in this proceeding. Duke Energy Ohio witness Trisha A. Haemmerle provides an overview of the Application, the relevant incentive and recovery mechanism, and the Company's intent to participate in the PJM

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[2] *In the Matter of the Application of Ohio Power Company for the Approval of its Energy Efficiency and Peak Demand Reduction Program Portfolio Plan for 2017 Through 2020*, Case Nos. 16-576-EL-POR, *et al.*, Finding and Order, p. 17 (February 26, 2020) (Continuation Order).

[3] *In the Matter of the Commission's Review of its Rules for Energy Efficiency Programs Contained in Chapter 4901:1-39 of the Ohio Administrative Code*, Case No. 12-2156-EL-ORD, *et al.*, Entry, p. 31 (December 19, 2018).

Capacity Auction. This testimony also describes the details of the new portfolio with respect to cost effectiveness and measurement and verification of outcomes. Duke Energy Ohio witnesses Rick Mifflin and Greg Tiernan respectively discuss residential and non-residential program implementation, and Duke Energy Ohio witness James E. Ziolkowski testifies concerning revenue requirements and rate implementation.

II. BACKGROUND

Duke Energy Ohio has been offering EE and DSM programs since as early as 1992, long before any statute had set energy efficiency goals. In 1992, Duke Energy Ohio formed a collaborative to develop and implement EE programs to help reduce the electrical demand of customers (Collaborative). The Company has worked effectively with its Collaborative since then and has continuously offered EE programs for its customers.

Improving EE and reducing unnecessary usage and demand is consistent with Ohio policies, and authorizing cost recovery for such programs is within the Commission's jurisdiction. For example, R.C. 4928.02 encourages demand-side management and the use of energy efficiency programs and alternative energy resources in small businesses.[4] And Ohio law permits utilities to include provisions in an electric security plan under which the utility "may implement . . . energy efficiency programs" and "allocate program costs across all classes of customers."[5] And a number of other Ohio statutes demonstrate that energy efficiency and demand reduction are desirable goals.[6]

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[4] R.C. 4928.02(D), (M)

[5] R.C. 4928.143(B)(2)(i).

[6] *See* R.C. 4935.01 (requiring the Commission to formulate estimates "to be used in formulation of long-range policies and proposals for reduction of demand [and] conservation of energy"); R.C. 4928.01(A)(39) (defining "smart grid" as "capital improvements to . . . distribution infrastructure that improve . . . efficiency, . . . or reduce energy demand or use"); R.C. 4928.55 (directing the establishment of energy efficiency programming for PIPP customers).

There is ample Commission precedent for authorizing cost recovery for energy efficiency programs without any specific statutory targets being set or required. Prior to the enactment of the first statutory EE mandate, State Senate Bill 221 (SSB 221), the Company offered EE/DSM programs to its customers and recovered costs of its EE programs through a discrete recovery mechanism, a demand-side management rider (Rider DSM).[7] Rider DSM was initiated prior to the passage of SB 221, and the creation of an electric security plan under R.C. 4928.143.[8] Since SSB 221, the Company has recovered such costs under its save-a-watt mechanism (Rider SAW), and most recently the existing EE/peak demand reduction (PDR) rider, (Rider EE/PDR).[9] However, HB 6, and specifically revised R.C. 4928.66(G)(3) contemplates the cessation of cost-recovery mechanisms, following final true-up, that were used to comply with statutory mandates for energy efficiency. Accordingly, the Company proposes to offer a scaled-down portfolio of programs and to once again use its former Rider DSM to recover program costs, lost margins, and incentives for the new portfolio programs being voluntarily offered to customers beyond the achievement of the statutory mandates.

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[7] *In the Matter of the Application for Recovery of Costs, Lost Margin, and Performance Incentive Associated with the Implementation of Electric Residential Demand Side Management Programs by The Cincinnati Gas & Electric Company*, Case No. 06-91-EL-UNC, pp. 4-5 (July 11, 2007).

[8] *In the Matter of the Application of The Cincinnati Gas & Electric Company for an Increase in Electric Distribution Rates; In the Matter of the Application of The Cincinnati Gas & Electric Company for Approval to Change Accounting Methods*, Case No. 05-59-EL-AIR *et al.*, pp. 6, 11 Opinion and Order (December 21, 2005) (approving a non-residential DSM tracker, initially set at $0.00).

[9] *See In the Matter of the Application of Duke Energy Ohio, Inc., for approval of an Electric Security Plan*, Case No. 08-920-EL-SSO, Opinion and Order, pp. 18, 42-43 (approving establishment of Rider DR-SAW); *In the Matter of the Application of Duke Energy Ohio, Inc. for an Energy Efficiency Cost Recovery Mechanism and for Approval of Additional Programs for Inclusion in its Existing Portfolio*, Case No. 11-4393-EL-RDR, pp. 6-7, 20 (August 15, 2012) (authorizing creation of Rider EE/PDR).

III. THE COMPANY SEEKS TO OFFER A SUBSTANTIALLY SCALED-DOWN PORTFOLIO OF EE AND DSM PROGRAMS IN 2021, TO BE FOCUSED PRIMARILY ON RESIDENTIAL EE AND DSM MEASURES.

With this Application, the Company submits a new portfolio of EE and DSM programs pursuant to O.A.C. 4901:1-39-04 and seeks approval of a proposed rate adjustment mechanism for recovery of associated program costs, lost distribution revenues, and shared savings pursuant to O.A.C. 4901:1-39-06. The programs included herein and described in detail *infra* in Section VI are all currently being offered, having been previously reviewed and approved by the Commission in the Company's program portfolio plan, Case No. 16-576-EL-POR.[10] In the interest of consistency for customers, the Company proposes to continue most of the existing residential programs and three of the existing non-residential programs, albeit in a substantially reduced form. Appendix A includes the measures and impacts for each program. The testimonies of Trisha Haemmerle, Greg Tiernan, and Rick Mifflin describe the benefits of EE and DSM Programs in general, as well as the benefits of the specific programs.

IV. CONCURRENT WITH THIS PORTFOLIO OF PROGRAMS, THE COMPANY PROPOSES A RATE ADJUSTMENT MECHANISM IN THE FORM OF RIDER DSM.

Duke Energy Ohio proposes to recover the direct program costs incurred to deliver EE and DSM programs, the associated lost distribution revenues, and the ability to earn a shared savings incentive, based upon its ability to offer cost effective programs, via a rider. Rider DSM will have a two-step per-kWh rate design, similar to Rider LGR. The first step will be for usage up to 833,000 kWh, and the second step will be for kWh over 833,000. The second step charge will be zero.

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[10] *In the Matter of the Application of Ohio Power Company for the Approval of its Energy Efficiency and Peak Demand Reduction Program Portfolio Plan for 2017 Through 2020*, Case Nos. 16-576-EL-POR, *et al.*, Opinion and Order, (September 27, 2017).

A. A separate rider is an appropriate and necessary cost recovery mechanism.

The Company believes that rider recovery for EE/DSM portfolio programs through a discrete rider mechanism is an appropriate path under both the recently revised EE rules and consistent with the interests of prudence, equity, and transparency. The current EE rules clearly contemplate that both the Commission and Company will evaluate programs and determine cost recovery on an annual basis and authorize the Company to propose a "rate adjustment mechanism for recovery of costs…," as long as the Company demonstrates "why such recovery is appropriate and necessary."[11] Indeed, the Commission has previously recognized that the EE rules permit a new cost recovery mechanism, such as a rider, "to be sought as part of a portfolio filing."[12]

As explained in the testimony of Trisha Haemmerle, the practice of filing a portfolio annually is an approach that reflects the dynamic nature of the rapidly evolving EE marketplace. A rider is the most practical rate adjustment mechanism for an annual adjustment of program offerings and re-examination of the components of cost recovery. But this is not the only reason that cost recovery via a new rider is appropriate and necessary.

Recovery via Rider DSM will comply with HB 6's directive to terminate the existing Rider EE/PDR, while also offering continuity to customers who have paid for the Company's EE programs via riders since before SSB 221. The practice of maintaining a separate EE rider has, for decades, offered customers transparency regarding rate allocation. As explained in the Testimony of Jim Ziolkowski, this will also allow the Company to avoid cross-subsidies among

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[11] O.A.C. 4901:1-39-06(A).

[12] *In the Matter of the Application of Duke Energy Ohio, Inc. for an Energy Efficiency Cost Recovery Mechanism and for Approval of Additional Programs for Inclusion in its Existing Portfolio*, Case No. 11-4393-EL-RDR, Opinion and Order, pp. 6-7 (August 15, 2012) ("While the Commission recognizes Duke's need to seek a new cost recovery mechanism to replace the now-expired Rider SAW, we believe [that] such a mechanism may only be sought in the context of an ESP ***or pursuant to the requirements of Rule 4901:1-39-07, O.A.C, which allows a cost recovery mechanism to be sought as part of a portfolio filing***.") (emphasis added). Although the rules have since been revised, they continue to provide for the filing and approval of a cost recovery mechanism in Section 4901:1-39-06.

residential and non-residential customers, that would otherwise occur through base rate recovery, and to avoid a disproportionate rate impact to the largest-usage customers.

B. Recovery of lost distribution revenues is appropriate and necessary.

In addition to direct program costs, the Company proposes to recover lost distribution margins from non-residential customers served under Rate DS, Rate DP, and Rate TS, as detailed in the Testimony of Jim Ziolkowski. These customers are not included in the Company's distribution revenue decoupling rider approved in Case No. 11-5905-EL-RDR. This is appropriate and necessary because it will compensate the Company for revenue losses directly attributable to its EE and DSM programs.

C. Recovery of a shared savings incentive is appropriate and necessary.

The Company proposes a fixed after-tax shared savings incentive of 8% of the net benefit based on the actual energy savings achieved, which means the remaining percentage of the benefit achieved will be retained by Duke Energy Ohio's customers. As explained in the Testimony of Trisha Haemmerle, a shared savings incentive is appropriate and necessary to counterbalance the revenue losses that a utility would otherwise suffer from the successful implementation of EE and DSM measures. In the absence of shared incentives, utility offered energy efficiency programs would, in effect, punish utilities for successful EE and DSM measures.

The proposed 8% after-tax shared savings mechanism proposed by the Company is in line with other incentive mechanisms that have been approved by the Commission in the Company's past portfolios. A fixed percentage, as opposed to the current performance-based incentive, provides stability and certainty for customers and the Company. As described in the testimonies of Trisha Haemmerle and Jim Ziolkowski, the incentive will be calculated on a shared savings pool which is based upon the net system benefits that are delivered by Duke Energy Ohio's approved portfolio of programs in a given year.

V. THE COMPANY REQUESTS CLARIFICATION ON THE SCOPE OF THE POST-APPROVAL PROCESS UNDER THE RECENTLY REVISED EE RULES.

In addition to approval of its proposed rate adjustment mechanism, as provided for in O.A.C. 4901:1-39-06, the Company seeks clarification on the standard for "post-approval" review under the revised rules. This is the first time that Duke Energy Ohio submits a portfolio under the revised rules of Chapter 39 of O.A.C. 4901:1. After the most recent revisions, which took effect approximately two months ago, the rules have "move[d] from a pre-approval process for portfolio plans to a post-approval scenario. . . ."[13] In its order approving the recent rule revisions, the Commission has likened the new "post-approval verification process" to "other, similar verification processes currently in place at the Commission, such as the Distribution Investment Rider and the Alternative Energy Rider."[14] This suggests that the post-approval process will be limited to "verif[ying]" the substantiation, eligibility, and accuracy of costs sought to be recovered, as well as conducting the performance verification process laid out in O.A.C. 4901:1-39-05.

Given the absence of precedent, the Company seeks to clarify that, after its cost recovery mechanism is approved, the post-approval review process for its 2021 program will be limited to (1) a "review of the cost effectiveness of program portfolio plan, as well as review of the utility's performance in implementing the plan. . . during the performance verification process contained within O.A.C. 4901:1-39-05,"[15]; and (2) an audit-like review to ensure the submitted costs were properly substantiated and eligible for recovery, similar to the annual audit process for the

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[13] *In the Matter of the Commission's Review of its Rules for Energy Efficiency Programs Contained in Chapter 4901:1-39 of the Ohio Administrative Code*, Case No. 12-2156-EL-ORD, *et al.*, Entry, p. 3 (January 29, 2014) (describing change as proposed by the Staff of the Commission).

[14] *In the Matter of the Commission's Review of its Rules for Energy Efficiency Programs Contained in Chapter 4901:1-39 of the Ohio Administrative Code*, Case No. 12-2156-EL-ORD, *et al.*, Order, p. 32 (December 19, 2018).

[15] *In the Matter of the Commission's Review of its Rules for Energy Efficiency Programs Contained in Chapter 4901:1-39 of the Ohio Administrative Code*, Case No. 12-2156-EL-ORD, *et al.*, Finding and Order, p. 29 (December 19, 2018).

Alternative Energy Rider or the current Rider EE/PDR. In other words, the "verification process[]" contemplated by the rules will be limited solely to verification, and will not be a portfolio planning exercise in which the Commission will be free to consider the exclusion of entire programs from the portfolio after customers have already relied upon their offering and incentives have been paid, or to consider severe after-the-fact program budget reductions for policy-based reasons. The Company submits these programs and proposed budgets now for the Commission's review.

VI. PROGRAM DESCRIPTIONS AND PORTFOLIO PLANNING REQUIREMENTS.

A. Residential Program Descriptions

Program Name	Program Description
Smart $aver® Residential	Offers customers a variety of energy conservation measures designed to increase EE in their homes.
Residential Energy Assessments	A free on-site energy audit designed to help residential customers realize cost savings on their monthly energy bills through a more energy efficient home.
My Home Energy Report (MyHER)	Compare household electric usage to similar, neighboring homes, and provides recommendations to lower consumption.
Energy Efficiency Education Program for Schools	Educates students on the value of energy efficient behavior, promotes on-site school audits, and encourages students to install EE measures in the home.
Low Income Neighborhood Energy Saver Program	Takes a non-traditional approach to serving income qualified areas of the Duke Energy Ohio service territory by providing weatherization services, home audits, and installation of EE measures.
Low Income Weatherization – Pay for Performance	Helps Duke Energy Ohio income-qualified customers reduce their energy consumption and lower their energy costs.
Power Manager®	Residential Load Control program.

1. Smart $aver® Residential

This program includes measures for lighting, HVAC Equipment and Services, Save Water and Energy Kits, and multifamily products and services.

a. Residential Lighting

The Residential Lighting measures within the Smart $aver® Program provides customers with a variety of energy efficient lighting options that can be leveraged through two delivery channels, an online Specialty Lighting offer and a retail-based LED lighting offer.

b. Residential HVAC and Water Measures

Residential HVAC and Water Measures within the Smart $aver® Program offers incentives to customers for installing high efficiency HVAC equipment and related measures including attic insulation and sealing, and sealing, heat pump water heaters, and variable speed pool pumps. In addition to the current program, a smart thermostat was added in 2018 to fill out the measures and make the program even more comprehensive as well as a new HVAC measure to promote the benefits of retrofitting from electric space heating to variable-refrigerant flow (VRF) mini and multi-split heat pumps.

c. Save Energy and Water Kit (SEWK)

The SEWK is designed to increase the EE of residential customers associated with the use of heated water by offering customers Insulated Pipe Tape and Low Flow Water Fixtures to install in high-use fixtures within their homes.

d. Multifamily Energy Efficiency Products & Services

The Multifamily Energy Efficiency Products & Services is a component of the program Duke Energy Ohio offers to target multifamily apartment complexes with EE products including, but not limited to efficient lighting and water saving measures.

2. Residential Energy Assessments

The Residential Energy Assessments program provides customers with a free in-home assessment designed to help them reduce energy usage and energy cost. An energy specialist completes a 60 to 90-minute walk through assessment of the home and analyzes energy usage specific to the home to identify energy saving opportunities. The Building Performance Institute

(BPI) certified energy specialist provides and reviews a customized report with the customer that contains the findings and identifies actions the customer can take to increase EE in his/her home. The recommendations will range from behavioral changes to equipment modifications that can save energy and reduce cost. The primary goal is to empower customers to better manage their energy usage.

Participating customers also receive an Energy Efficiency Kit that features many measures that can be directly installed by the energy specialist at the time of the assessment. The kit may include measures such as energy efficient lighting, low flow water measures, outlet/switch gaskets, weather stripping and energy saving tips.

3. My Home Energy Report – (MyHER)

The MyHER is an EE program based on behavioral science to motivate and enable energy efficient behavior. This program utilizes a peer group of homes similar in size, age, type of heating fuel and geography to highlight the customer's variance in energy use when compared to the "Average Home" and "Efficient Home" to engage the customer. The energy usage data features easy to read charts and visuals that illustrate how a customer's home performed in the last month and trended over the year as compared to the sample set via print and online channels. Further social motivation is introduced by establishing a value for an "Energy Efficient Home" within the peer group, as customers closest to the average are unlikely to be motivated to change their behavior. After engaging customers around their energy usage, the reports provide customers with actionable EE tips and guidance, enabling them to become more energy efficient and lower their electric bills. In addition, to providing energy efficiency tips, the reports also are used to increase customer awareness around other programs to cross-promote participation. There is also the MyHER Interactive portal offering customers an opportunity to further engage with their energy usage.

Currently the MyHER is for customers living in single family homes and multifamily dwellings. The multifamily report is similar in the comparison data provided; however, multifamily dwellings are compared to other multifamily dwellings and the tips on the report are tailored to the behavior changes and efficiency changes a multifamily dwelling can make.

4. Energy Efficiency Education Program for Schools

The Energy Efficiency Education Program for Schools is available to students K-12 enrolled in public and private schools, who reside in households served by Duke Energy Ohio. The primary goal of this program is to educate students on the importance of energy conservation and teach them how to save energy in their homes. This program includes both an energy saving curriculum for the school classroom and an Energy Efficiency Starter kit provided to participating student households at no direct cost. In February 2019, the program released a gamification application to further drive participation in the program and provide an additional channel of on-going engagement with the students.

5. Low-Income Neighborhood Energy Saver Program

The Low-Income Neighborhood Program, known as Neighborhood Energy Saver or NES, assists primarily low-income customers in reducing energy costs through energy education and installation of energy efficient measures. Targeted low-income neighborhoods qualify for this program if approximately 50 percent of the households have incomes of 0 percent-200 percent of the Federal Poverty Guidelines. The primary goal of this program is to empower low-income customers to better manage their energy usage.

Customers participating in this program will receive a walk-through energy assessment and one-on-one education from program energy efficiency technicians. Additionally, the customer receives a suite of energy efficient items installed by the technicians.

6. Power Manager®

Power Manager® is a residential load control program. It is used to reduce electricity demand by controlling residential air conditioners during periods of peak demand. A load control device is attached to the outdoor air conditioning unit of participating customers. The device enables Duke Energy Ohio to cycle central air conditioning systems off and on when the load on Duke Energy Ohio's system reaches peak levels.

7. Low Income Weatherization – Pay for Performance

The Low-Income Weatherization – Pay for Performance program is designed to help Duke Energy Ohio income-qualified customers reduce their energy consumption and lower their energy cost. This Program will specifically focus on customers that meet the income qualification level (*i.e.*, income below 200% of the federal poverty level). The weatherization program will also educate customers on their energy usage and other opportunities that can help reduce energy consumption and lower energy costs.

Duke Energy Ohio will work with community agencies to leverage the Ohio Home Weatherization Assistance Program to provide customers with weatherization services and other energy efficient measures such as refrigerators, water saving devices and efficient lighting. Agencies will be reimbursed a set amount per measure installed in Duke Energy Ohio customers' homes based on the average kWh savings per measure.

B. Non-Residential Program Descriptions

Program Name	Program Description
Business Energy Saver (BES)	The purpose of this program is to reduce energy usage through the direct installation of EE measures within qualifying non-residential customer facilities.
PowerShare®	Duke Energy Ohio's Non- Residential Peak Load Management Program
Power Manager® for Business	Duke Energy Ohio's Non- Residential Peak Load Management Program

1. Business Energy Saver

The objective of the BES is to enable the installation of high efficiency equipment in existing non-residential facilities. BES is designed to offer a convenient, turn-key process for non-residential customers. Small and medium business owners typically lack the time, upfront capital, and technical expertise to facilitate the retrofit or replacement of older equipment within their facilities. This program effectively removes these barriers by offering a turn-key EE offering which facilitates the direct installation of EE measures, and minimizes financial obstacles with significant upfront incentives from Duke Energy Ohio which offset the cost of projects.

2. PowerShare®

PowerShare® is Duke Energy Ohio's demand response (DR) program geared toward Commercial and Industrial customers. The primary offering under PowerShare® is named CallOption and it provides customers a variety of offers that are based on their willingness to shed load during times of peak system usage. These credits are received regardless of if an event is called or not. Energy credits are also available for participation (shedding load) during curtailment events. The notice to curtail under these offers is 30 minutes (to be consistent with the timing of an emergency event called by PJM) and there are penalties for non-compliance during an event.

3. Power Manager® for Business

Power Manager® for Business is a non-residential program that provides business customers with the opportunity to participate in DR and earn incentives. This program is designed as a flexible offer that provides small-to-medium size business customers with options on device types, thermostat or switch, as well as level of DR participation. Both thermostat and switch customers have the same DR participation options and receive the same DR incentives.

C. Compliance with O.A.C. 4901:1-39

Duke Energy Ohio submits this application in compliance with relevant sections of O.A.C. 4901:1-39 as recently amended by the Commission, and effective on March 26, 2020. Specifically, O.A.C. 4901:1-39-04 sets forth the filing requirements for a utility's subsequent EE/DSM program portfolio, upon the expiration of any commission-approved portfolio.[16]

1. 4901:1-39-04 (B) - Cost Effectiveness of Programs

O.A.C. 4901:1-39-04(B) requires each utility to demonstrate the cost-effectiveness of its program portfolio plan based upon the total resource cost (TRC). The cost-effectiveness test results for the programs to be included in the portfolio are provided below in Table 1 below.

Table 1*:

Program/Portfolio Cost Effectiveness - 2021

Program	1	UCT	TRC	RIM	PCT
Residential Programs					
Energy Efficiency Education Program for Schools		3.32	3.20	1.54	16.35
Home Energy Comparison Report		2.00	2.00	1.15	
Low Income Neighborhood Program		0.64	0.64	0.54	2.21
Power Manager®		7.95	16.85	7.95	
Residential Energy Assessments		1.23	1.24	0.73	52.49
Smart $aver® Residential		3.30	1.93	1.27	4.77
Low Income Weatherization - Pay for Performance		1.76	8.16	0.93	
Total		3.03	2.53	1.53	6.80
Non-Residential Programs					
Power Manager® for Business		2.31	3.42	2.31	
PowerShare®		2.63	11.80	2.63	
Business Energy Saver		2.49	1.71	1.41	3.42
Total		2.51	2.39	1.69	3.75
Overall Portfolio Total		2.83	2.48	1.58	5.51

1 - Expected PJM credits have not been included in cost effectiveness.

*Programs without a Participant Test Score (PCT) are programs without participant costs resulting in a null participant score.

[16] O.A.C. 4901:1-39-04 (A)

1. 4901:1-39-04(C) (1) Executive Summary

O.A.C. 4901:1-39-04(C)(1) requires an application to include an executive summary.[17] This portfolio of programs represents a comprehensive DSM and EE plan of action. The approach being pursued through the continuation of existing programs and the addition of new measures, which will provide market access for cost-effective DSM and EE for all customer classes. The Company considered the criteria in 4901:1-39-03(B) when developing programs for inclusion in this portfolio.

2. 4901:1-39-04(C)(1) Assessment of Potential pursuant to paragraph (A) of rule 4901:1-39-03

O.A.C. 4901:1-39-04(C)(1) requires an application to include an assessment of potential pursuant to paragraph (A) of rule 4901:1-39-03 of the Administrative Code.[18] Prior to proposing its comprehensive EE and DR program portfolio plan, an electric utility shall conduct an assessment of potential energy savings and peak-demand reduction from adoption of EE and DR measures within its certified territory, which will be included in the electric utility's program portfolio filing. An electric utility may collaborate with other electric utilities to co-fund or conduct such an assessment on a broader geographic basis than its certified territory. However, such an assessment must also disaggregate results on the basis of each electric utility's certified territory.

In compliance with this requirement, Duke Energy Ohio had an Assessment of Potential study completed and has included such study in this filing. The Assessment of Potential study was conducted by Nexant and is Appendix B to this application.

a. 4901:1-39-03(A)(1) Analysis of technical potential.

[17] O.A.C. 4901:1-39-04 (C)(1).
[18] O.A.C. 4901:1-39-04 (C)(1).

Each electric utility shall survey and characterize electricity-consuming facilities located within its certified territory. Based upon the survey and characterization, the electric utility shall conduct an analysis of the technical potential for EE and peak-demand reduction obtainable from applying commercially available measures.

In satisfaction of this requirement, Duke Energy contracted with Nexant to perform a Market Potential Study which includes an analysis of technical potential based on the current state of energy-using equipment located in the Duke Energy Ohio territory. *See* Attachment B.

b. 4901:1-39-03(A)(2) Analysis of economic potential.

For each alternate measure identified in its assessment of technical potential, the electric utility shall conduct an assessment of cost-effectiveness using the total resource cost test or the utility cost test, whichever is applicable.

In satisfaction of this requirement, as part of the Market Potential Study referenced above, Nexant provided an analysis of the Economic Potential as calculated using the total resource cost test.

c. 4901:1-39-03(A)(3) Analysis of achievable potential.

For each alternate measure identified in its analysis of economic potential as cost-effective, the electric utility shall conduct an analysis of achievable potential. Such analysis shall consider the ability of the program design to overcome barriers to customer adoption, including, but not limited to, appropriate bundling of measures.

In satisfaction of this requirement, as part of the Market Potential Study referenced above, Nexant provided an analysis of a set of bundled measures that will be designed to overcome barriers to customer adoption. *See* Attachment B.

d. 4901:1-39-03(A)(4) Description of attributes relevant to assessing value

For each measure considered, the electric utility shall describe all attributes relevant to assessing its value, including, but not limited to potential energy savings or PDR, cost, and non-energy benefits.

In satisfaction of this requirement, as part of the Market Potential Study referenced above, see Appendix B, Section 7. Note: the Nextant study did not apply an economic value to non-energy benefits in the course of determining the economic potential. This is because there is not a defined list of approved benefits to be considered in Ohio nor an agreed-upon means to quantify and recognize the economic value of non-energy benefits.

3. 4901:1-39-04(C)(2) Stakeholder Participation

As part of its application, the utility must include "[a] description of stakeholder participation in program planning efforts and program portfolio development."[19] The regulation further describes the minimum timing of these meetings, and the scope of information and participation by stakeholders.[20]

In satisfaction of this requirement, and as noted above, Duke Energy Ohio works closely and cooperatively with external stakeholders through the Collaborative process. The Company's EE Collaborative first began in 1992. Since that time, the Company has continued to engage with its Collaborative members on the design and operation of existing programs as well as ideas for new programs. Duke Energy Ohio seeks to obtain consensus approval from the Collaborative on proposals to be filed with the Commission. This same approach was employed in the development of the Company's current programs, which were filed and subsequently approved by the Commission for implementation through December 31, 2019 and extended until December 31, 2020 and is being used with respect to the portfolio of programs that the Company is requesting

[19] O.A.C. 4901:1-39-04(C)(2).
[20] *Id.*

approval of in this application. Duke Energy Ohio has held meetings with external stakeholders, as well as a Duke Energy Ohio Collaborative meeting to discuss the portfolio, and will continue to do so. Based on feedback, it believes that, other than concerns around the potential need to establish a funding source to evaluate emerging energy efficient technologies and offerings, there is support for the proposed portfolio.

4. 4901:1-39-04 (C)(3) Other Public Utilities' Programs

As part of its application, the utility must include "a description of attempts to align and coordinate programs with other public utilities' programs."[21]

Although Duke Energy Ohio does not coordinate its programs with other public utilities, it does participate in ongoing dialogue with other utilities to understand both the successes and challenges associated with each company's portfolios of programs. The Company does coordinate the design and implementation of its programs with its affiliate utility located in Northern Kentucky as well as with all other utility affiliates of Duke Energy (Duke Energy Kentucky, Duke Energy Indiana, and Duke Energy Carolinas).

5. 4901:1-39-04 (C) (4) Existing Programs and 4901:39-04(C)(5) Programs Included in the Portfolio Plan.

A utility's application must include an analysis of existing programs, "provide a description of each existing program, and measures within the program, including an analysis of the success of the program and the electric utility's rationale for continuing, modifying, or eliminating the program or measures within the program."[22]

With the elimination of the statutory energy efficiency mandates, the Company has reduced the size of its portfolio and focused more heavily on residential programs. Thus, two existing non-

[21] O.A.C. 4901:1-39-04(C)(3)
[22] O.A.C. 4901:1-39-04(C)(4)

residential programs are being eliminated from the proposed 2021 offerings. The Company has eliminated Smart $aver® Prescriptive and Smart $aver® Customer, both of which provide incentives to commercial and industrial consumers for installation of high efficiency equipment in applications involving new construction, retrofit, and replacement of failed equipment. Although the programs have been successful in the past, the programs generally target segments of customers that have demonstrated a desire to opt-out of participation in the Duke Energy Ohio EE programs.

Duke Energy Ohio began implementation of its existing programs on August 15, 2012. Below, the Company provides the response to the requested items for each of the existing previously approved programs proposed for inclusion in the 2021 portfolio plan as required by O.A.C. 4901:1039-04(C)(5).

a. Descriptions Applicable to All Programs

In O.A.C. 4901:1-39-04 (C)(5)(a) to (k), there are a few elements for which the response is essentially the same for all the existing and new programs. These are the information requests under O.A.C. 4901:1-39-04 (C)(5), (d), (e), and (k). The common responses are provided below.

O.A.C. 4901:1-39-04(C)(5)(d): The Company is proposing a one-year duration for each program although two years of data are presented for a preview of future plans.

O.A.C. 4901:1-39-04(C)(5)(e): An estimate of the level of program participation is included in the table provided in response to Rule 4901:1-39-04(C)(5)(b).

O.A.C. 4901:1-39-04(C)(5)(k): In 2019, the Commission hired Evergreen Economics to update the State of Ohio Technical Resource Manual (TRM) that was originally filed on August 6, 2010 and updated by Michaels Energy on September 23, 2019 and filed in Case No. 19-02-EL-UNC on November 29, 2019 (2019 Ohio TRM). The Commission has not ruled on the 2019 Ohio TRM to date. Duke Energy Ohio will develop an evaluation, measurement, and verification

(EM&V) schedule for each program as needed if the 2019 Ohio TRM is not approved by the time of program implementation.

b. Program Descriptions Required Pursuant to O.A.C. 4901:1-39-04(C)(5)

The following program descriptions are in response to the requirements set forth in Rule 4901:1-39-04 (C) (5)(a) through (k), requiring specific information regarding each program, including a narrative description,[23] program objectives,[24] targeted customer sector,[25] proposed duration,[26] estimated level of participation,[27] program participation requirements,[28] the marketing approach,[29] program implementation approach,[30] program budget,[31] participant costs[32] and plan for reporting.[33]

1. Smart $aver® Residential

(a) This program includes measures for lighting, HVAC Equipment and Services, Save Energy and Water Kit (SEWK), and Multifamily products and services. The Residential Lighting measures within the Smart $aver® Program have two basic components: an online Specialty Lighting offer and a retail-based LED lighting offer.

The HVAC Equipment and Services measures offers incentives to customers for installing high efficiency HVAC measures including attic insulation and sealing, and duct sealing,

[23] O.A.C. 4901:1-39-04(C)(5) (a).
[24] O.A.C. 4901:1-39-04(C)(5) (b).
[25] O.A.C. 4901:1-39-04(C)(5) (c).
[26] O.A.C. 4901:1-39-04(C)(5) (d).
[27] O.A.C. 4901:1-39-04(C)(5) (e).
[28] O.A.C. 4901:1-39-04(C)(5) (f).
[29] O.A.C. 4901:1-39-04(C)(5) (g).
[30] O.A.C. 4901:1-39-04(C)(5) (h).
[31] O.A.C. 4901:1-39-04(C)(5) (i).
[32] O.A.C. 4901:1-39-04(C)(5) (j).
[33] O.A.C. 4901:1-39-04(C)(5) (k).

heat pump water heaters, smart thermostats, mini and multi split heat pumps and variable speed pool pumps.

The SEWK is designed to increase the EE of residential customers by offering customers Low Flow Water Fixtures and Insulated Pipe Tape to install in high-use fixtures within their homes.

The Multifamily Energy Efficiency Products & Services will allow Duke Energy Ohio to utilize an alternative delivery channel which targets multifamily apartment complexes.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, contracted third-party evaluators will estimate gross savings via engineering estimates using survey participant data and other inputs. Free ridership and spillover will also be determined through participant surveys to calculate a net-to-gross ratio. Duke Energy Ohio uses the impact results of the evaluations to update the program and measure impacts. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	3,736	3,451
kWh	31,564,908	32,049,579
Participants	279,391	228,665

kW – Gross Annual Summer Coincident kW w/losses. kWh – Gross Annual kWh w/losses. Participants – Annual Participants (refers to number of measures installed)

(c) Residential

(d) One year (2021)

(e) See above (b)

(f) Duke Energy Ohio served homeowners or renters currently residing in or building a single-family residence, condominium, duplex, apartment, or mobile home. To receive water measures, apartments must have electric water heating.

The Multifamily Energy Efficiency Products & Services program is available to Duke Energy Ohio served apartments on a residential rate.

To receive a discount on pool pumps a customer must be a Duke Energy Ohio served homeowner currently residing in or building a single-family residence with in-ground swimming pool.

(g) The Program will be promoted by, but not limited to:

a. Email

b. Bill Messages

c. Bill Envelopes

d. Social Media

e. Direct Mail

f. Printed Collateral

g. Earned Media[34]

h. Other Duke Energy Program collaboration efforts

(h) Third party vendors will be used

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 4,556,393	$ 4,582,006

(j) Varies by measure, *see* Direct Testimony of Rick Mifflin for details.

[34] Earned media refers to favorable publicity gained through promotional efforts other than advertising.

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

2. Residential Energy Assessments

(a) Residential Energy Assessments is a free in-home assessment designed to help customers reduce energy usage and energy cost. An energy specialist completes a 60 to 90-minute walk through assessment of the home and analyzes energy usage specific to the home to identify energy saving opportunities. The BPI certified energy specialist provides and discusses a customized report to the customer that identifies actions the customer can take to increase EE in his/her home. The recommendations will range from behavioral changes to equipment modifications that can save energy and reduce cost. The primary goal is to empower customers to better manage their energy usage. Customers receive an Energy Efficiency Kit with a variety of measures that can be directly installed by the energy specialist at the time of the assessment. The kit may include measures such as energy efficient lighting, low flow water measures, outlet/switch gaskets, weather stripping and energy saving tips. Customers may also be eligible for additional energy efficient lighting.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, third party evaluators will conduct a billing analysis to determine the overall ex post net program savings of the program. The billing analysis will utilize regression models to compare energy use of treated homes to a comparison group of non-treated homes. Duke Energy uses the impact results of the evaluations to update the program and measure impacts. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	264	260
kWh	2,893,936	2,853,728
Participants	7,255	6,017

kW – Gross Annual Summer Coincident kW w/losses. kWh – Gross Annual kWh w/losses. Participants – Annual Participants (refers to number of households participating)

(c) Residential

(d) One year (2021)

(e) See above (b)

(f) Available to Duke Energy Ohio residential customers who own a single-family home.

(g) Program participation is primarily driven through targeted mailings to pre-qualified residential customers. To supplement this activity and keep acquisition costs low, e-mail marketing will be used when targeted customers have elected to receive offers electronically. Utilizing two different marketing channels will increase awareness levels of the program, thus potentially increasing program participation.

(h) Various third-party vendors are contracted for program administration, customer service/call center support and scheduling, and fulfillment of the EE kits. A BPI certified energy specialist conducts the in-home assessment.

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 1,252,459	$ 1,247,033

(j) Not applicable

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

3. My Home Energy Report

(a) The MyHER is an EE program based on behavioral science to motivate energy efficient behavior. This program uses a peer group of homes of similar size, age, type of heating fuel and geography to highlight the customer's variance in energy use when compared to the "Average Home" and "Efficient Home" of the peer group to engage the customer. The energy usage data features easy to read charts and visuals that illustrate how a customer's home performed in the last month and trended over the year as compared to the sample set via print and online channels. Further social motivation is introduced by establishing a value for an "Energy Efficient Home" within the peer group, as customers closest to the average are unlikely to be motivated to change their behavior. Currently the MyHER is only available to customers living in single family homes.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If required, the evaluation for MyHER will consist of an experimental program evaluation design in which households in a given population are randomly assigned into two groups: a treatment group and a control group. Regarding the basis for the impacts, third-party evaluators will determine impact estimates by comparing the energy usage between MyHER treatment customers (those customers receiving MyHER reports) and control customers (those customers not receiving MyHER reports). The difference between the two groups is determined to be attributed to MyHER participation. Duke Energy Ohio uses the impact results of the evaluations to update the program and measure impacts. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	23,716	23,776
kWh	92,415,498	92,646,645
Participants	361,864	362,769

kW – Gross Annual Summer Coincident kW w/losses. kWh – Gross Annual kWh w/losses. Participants – Annual Participants (refers to number of households participating)

(c) Residential

(d) One year (2021)

(e) See above (b)

(f) The audience is Duke Energy Ohio customers who are identified through demographic information as likely to decrease energy usage in response to the information contained in the My Home Energy Report document. These customers reside in individually-metered, single-family or multi-family residences receiving concurrent service from the Company.

(g) The Program will be marketed through direct mail. The reports are also available to customers on-line or via mobile channels.

(h) The MyHER is sent via direct mail and email to targeted customers with desirable characteristics who are likely to respond to the information. The paper reports are distributed 8 times per year. The electronic reports are sent out 12 times per year.

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 3,711,135	$ 3,701,590

(j) Not applicable

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

4. Energy Efficiency Education Program for Schools

(a) This program educates students in the classroom about sources of energy and EE in homes, and it provides students the ability to conduct an energy audit of their homes. After completing a home energy survey, participants receive an Energy Efficiency Starter Kit. The program is promoted to teachers and school administrators. Classroom material is enhanced by live theatre performances delivered to the entire school.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, contracted third-party evaluators will estimate gross savings via engineering estimates using survey participant data and other inputs. Free ridership and spillover will also be determined through participant surveys to calculate a net-to-gross ratio. Duke Energy uses the impact results of the evaluations to update the program and measure impacts. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	963	963
kWh	3,585,549	3,585,549
Participants	6,807	6,807

kW – Gross Annual Summer Coincident kW w/losses. kWh – Gross Annual kWh w/losses. Participants – Annual Participants (refers to number of households participating)

(c) Residential

(d) One year (2021)

(e) See above (b)

(f) Eligible participants include Duke Energy Ohio residential customers who reside in households with school-age children enrolled in public and private schools.

(g) The Program will be promoted by, but not limited to:

a. Direct mail

b. Email

The program focuses on core educational concepts, including:

- How electricity and energy are made
- Resources and uses of energy
- Ways energy is wasted
- How to conserve energy

(h) School principals are the main point of contact and will schedule the performance at their convenience for the entire school. Once the principal has confirmed the performance date and time, two weeks prior to the performance, all materials are delivered to the principal's attention for distribution. Materials include school posters, teacher guides, and classroom and family activity books.

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 627,202	$ 624,217

(j) Not applicable

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

5. Power Manager®

(a) Power Manager® is a residential load control program. It is used to reduce electricity demand by controlling residential air conditioners and electric water heaters during periods of peak demand. A load control switch is attached to the outdoor air conditioning unit of participating customers. The device enables Duke Energy Ohio to cycle central air

conditioning systems off and on when the load on Duke Energy Ohio's system reaches peak levels.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, Duke Energy Ohio will contract third-party EM&V consultants to provide evaluations of the program. These evaluations will follow recommended industry practices and PJM guidelines. Impacts are determined by a randomized control methodology in which the Power Manager population is separated into treatment and control groups for each event day. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	48,588	47,576
kWh	-	-
Participants	46,029	45,070

kW –Cumulative Summer Coincident kW w/losses. Participants –kW load reduction at the meter and prior to operability adjustments.

(c) Residential

(d) One year (2021)

(e) See above (b)

(f) This program is available to Duke Energy Ohio residential customers residing in owner- occupied, single-family residences with a functioning outdoor air conditioning unit.

(g) The Program may be promoted by, but not limited to:

a. Direct mail

b. Telemarketing

c. Promotion through other Duke Energy programs

d. Electronic channels such as Duke Energy's website and email.

(h) A device is installed on participating customer air conditioning units by a vendor contracted by Duke Energy Ohio. Once installed, the customer's A/C unit can be cycled off and back on during Power Manager events (May – September).

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 1,240,240	$ 1,173,560

(j) Not applicable

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

6. Low Income Neighborhood Energy Saver Program

(a) The Duke Energy Ohio Low Income Neighborhood Energy Saver Program takes a non-traditional approach to serving income-qualified areas of the Duke Energy Ohio service territory. The program engages targeted customers with personal interaction in a familiar setting. Ultimately, the program aims to reduce energy consumption by directly installing measures and educating the customer on better ways to manage their energy bills.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, third party evaluators will conduct a billing analysis to determine the overall ex post net program savings of the program. The billing analysis will utilize regression models to compare energy use of treated homes to a comparison group of non-treated homes. Duke Energy uses the impact results of the evaluations to update the program and measure impacts. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	137	137
kWh	443,352	443,352
Participants	1,000	1,000

kW – Gross Annual Summer Coincident kW w/losses. kWh – Gross Annual kWh w/losses. Participants – Annual Participants (refers to number of households participating)

(c) Low Income Residential

(d) One year (2021)

(e) See above (b)

(f) The Program is available only to individually-metered residential customers in neighborhoods selected by Duke Energy Ohio, at its sole discretion, who are considered income eligible based on third party data that includes income level and household size. Neighborhoods targeted for participation in this program have approximately 50% of households with an income equal to or less than 200% of the Federal Poverty Guidelines established by the U.S. Government.

(g) The marketing strategy for this program will focus on a grassroots approach. The Program will be promoted by, but not limited to:

a. Direct mail

b. Social media

c. Door hangers

d. Press releases

e. Community presentations and partnerships

f. Inclusion in community publications such as newsletters, etc.

(h) Third party vendors will be used

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 447,242	$ 451,531

(j) Not applicable.

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

7. Low Income Weatherization - Pay for Performance

(a) The Low-Income Weatherization - Pay for Performance program is designed to help Duke Energy Ohio income-qualified customers reduce their energy consumption and lower their energy cost. This Program will specifically focus on customers that meet the income qualification level (*i.e.*, income below 200% of the Federal Poverty Guidelines). The weatherization program will also educate customers on their energy usage and other opportunities that can help reduce energy consumption and lower energy costs.

Duke Energy Ohio will partner with community agencies to provide customers with weatherization services and other energy efficient measures such as refrigerators, water saving devices and efficient lighting. Agencies will be reimbursed a set fee per measure installed in Duke Energy Ohio customers' homes based on the average kWh savings per measure.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, contracted third-party evaluators will estimate net savings via engineering estimates using in-service rates via on-site verification and other inputs. Since this is an income-qualified program, no free ridership applies. Duke Energy uses the impact results of the evaluations to

update the program and measure impacts. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	218	218
kWh	1,446,919	1,446,919
Participants	15,668	15,668

kW – Gross Annual Summer Coincident kW w/losses. kWh – Gross Annual kWh w/losses. Participants – Annual Participants (refers to per measure installed)

(c) Low Income Residential

(d) One year (2021)

(e) See above (b)

(f) The program is available to agencies serving single-family homes and multifamily units, both owners and renters with owner approval. Eligibility of participation is determined by the weatherization agency and an in-home assessment. Qualified customers must receive electric service through Duke Energy Ohio and meet weatherization guidelines.

(g) The marketing strategy for this program will focus on utilizing low income agencies as the primary method for recruiting and informing customers of this program. Additional marketing will include mailers, flyers and direct contact between agencies and customers.

(h) Third party vendors will be used

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 267,072	$ 265,801

(j) Not applicable

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

8. Business Energy Saver

(a) The objective of the BES is to enable the installation of high efficiency equipment in existing non-residential facilities. BES is designed to offer a convenient, turn-key process for non-residential customers. Small and medium business owners typically lack the time, upfront capital, and technical expertise to facilitate the retrofit or replacement of older equipment within their facilities. This program effectively removes these barriers by offering a turn-key EE offering which facilitates the direct installation of EE measures, and minimizes financial obstacles with significant upfront incentives from Duke Energy Ohio which offset the cost of projects.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, third-party evaluators will determine program savings through engineering-based estimates, supplemented by time-of-use lighting loggers to directly measure operating hours and coincidence factors for program-incented lighting measures. In addition, on-site verification will be performed on-site to assess installation and operation. Participant surveys will be conducted to establish free ridership and spillover estimates. Duke Energy uses the impact results of the evaluations to update the program and measure impacts. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	3,631	3,432
kWh	19,931,259	18,839,135
Participants	18,250,000	17,250,000

kW – Gross Annual Summer Coincident kW w/losses. kWh – Gross Annual kWh w/losses. Participants – Annual Participant (refers to number of measures installed)

(c) Commercial, industrial and government facilities

(d) One year (2021)

(e) See above (b)

(f) The Program is available to existing Duke Energy Ohio non-residential customers.

(g) The Program will be promoted by, but not limited to:

a. Existing market channels, equipment providers and contractors

b. Email

c. Newsletters

d. Direct Mail

e. Duke Energy website

f. Account and Segment Managers

(h) The program offers predefined incentives based on current market assumptions and Duke Energy's engineering analysis. The eligible measures, incentives and requirements for both equipment and customer eligibility are listed in the applications posted on Duke Energy Ohio's website.

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 4,908,428	$ 4,653,781

(j) Varies by measure

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

9. PowerShare®

(a) Power Manager® for Business is an EE and DSM program for non-residential customers that allow the Company to reduce the operation of participants' AC units to help manage the power grid. The Program provides customers with options for how they would

like to participate. In exchange for participation, the Company applies an annual incentive directly to their bills.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, Duke Energy Ohio will contract third-party EM&V consultants to provide evaluations of the program. These evaluations follow recommended industry practices and PJM guidelines. Impacts are determined by comparing customers' baselines absent events to the interval data collected during events. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	26,065	26,065
kWh	-	-
Participants	24,692	24,692

kW – Cumulative Summer Coincident kW w/losses. Participants – kW load reduction at the meter

(c) Non-residential customers

(d) One year (2021)

(e) See above (b)

(f) All non-residential customers who are able to meet the load shedding requirements.

(g) The Program will be promoted by, but not limited to:

a. Account and Segment Managers

(h) In the QuoteOption portion of the program, customers receive notice of a price offer from Duke Energy Ohio to reduce load. Based on the price offered, the customer makes the decision as to whether or not they will reduce load. If a customer elects not to reduce load, there are no penalties for declining participation in the event. Participation is purely

voluntary. The customer only receives a credit for the number of kilowatt-hours they reduced during the event, multiplied by the price offered by Duke Energy Ohio.

Under the CallOption program, customers receive a monthly credit for providing Duke Energy Ohio with the right to call on the customers load during emergency situations. Each of the CallOption offers consist of an emergency provision wherein the customer agrees to interruptions for curtailments initiated by the Regional Transmission Operator, PJM Interconnection, Inc., (PJM). These offers are based upon the PJM program requirements for the portfolio filing year. In addition, when there is an emergency event, customers receive an event credit based on 85% of the real-time Locational Marginal Price in the Duke Energy Ohio/Kentucky (DEOK) node during the emergency event hours.

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 1,350,410	$ 1,338,864

(j) Not applicable

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

10. Power Manager® For Business

(a) Power Manager® for Business is Duke Energy Ohio's DR program offered to commercial and industrial customers. The program offers various options for customers to choose from.

(b) Regarding the basis for the impacts, Duke Energy Ohio will use the 2019 Ohio TRM upon approval or EM&V results recently accepted by the Commission. If necessary, the evaluator will estimate the DR impacts by using participant AMI data and coordinating with the Duke Energy Ohio team to have test DR events from which to assess the impacts. Data

from operational events, as available, will be used for the analysis as well. Appendix A includes the measures, impacts, and listing of source documentation.

	2021	2022
kW	8,883	8,484
kWh	-	-
Participants	8,415	8,037

kW – Cumulative Summer Coincident kW w/losses. Participants – kW load reduction at the meter

(c) Non-residential customers

(d) One year (2021)

(e) See above (b)

(f) The Program is available to existing non-residential customers that are not participating in the Company's other EE and DSM programs and have at least one air conditioner or heat pump that operates to maintain conditioned space on weekdays during the cooling season.

(g) The Program will be promoted by, but not limited to:

a. Door to door canvassing

b. Duke Energy's Business Energy Advisors

(h) For each air conditioning or heat pump unit that they have, Program participants can choose between a Wi-Fi thermostat or a load control switch professionally installed for free by the program. In addition to choosing the equipment, participants also choose the cycling level at which they participate—30%, 50% or 75%. The levels represent the percentage of the normal on/off cycle of the unit that is reduced. During a conservation period, the Company sends a signal to the thermostat or switch to reduce the amount of time a unit is on by the percentage the participant selected.

(i) The projected program budget:

	2021	2022
Annual Utility Costs	$ 773,132	$ 748,270

(j) Not applicable

(k) Duke Energy Ohio will develop an EM&V schedule for each program as needed if the TRM is not approved by the time of program implementation.

6. O.A.C. 4901:1-39-04(D) Baselines

Pursuant to O.A.C. 4901:1-39-04(D), a utility may, as part of its filing, "request to adjust its sales and/or demand baseline." The following descriptions are in response to 4901:1-39-04(D).

R.C. 4928.66(A)(2)(a) states the baseline for energy savings under R.C. 4928.66(A)(1)(a) is the average of the total kilowatt hours the electric distribution utility sold in the preceding three calendar years. It also provides that the baseline for a peak demand reduction under division (A)(1)(b) shall be the average peak demand on the utility in the preceding three calendar years, except that the commission may reduce either baseline to adjust for new economic growth in the utility's certified territory. Additional adjustments are provide for.

Duke Energy Ohio respectfully submits that due to the statutorily-mandated benchmarks in R.C. 4928.66(A)(1)(a) being removed after 2020 by H.B. 6, the baselines are no longer necessary to determine mandated savings.

VII. CONCLUSION

Consistent with the information provided above as supported by the Company witnesses in testimony included with this Application, Duke Energy Ohio respectfully requests that (1) the Commission approve the cost recovery mechanism proposed for the portfolio of programs submitted here; and (2) provide the requested clarification regarding the post-approval process.

Respectfully submitted,

Duke Energy Ohio, Inc.

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Willing to accept service via email

RIDER DSMR
DEMAND SIDE MANAGEMENT RECOVERY RATE

The DSMR rate shall be determined in accordance with the provisions of Rider DSM, Demand Side Management Rider, Sheet No. 130 of this Tariff.

The DSMR rate to be applied to residential service customer bills beginning with the ___ revenue month is $0.000000 per kilowatt-hour.

The DSMR rate to be applied to non-residential service customer bills, other than service under Rates DS, DP, TS, and RTP, beginning with the _____ revenue month for distribution service is $0.000000.

The DSMR rate to be applied to non-residential service customer bills, for service under Rates DS, DP, TS, and RTP, beginning with the _____ revenue month for distribution service is $0.000000 per kilowatt-hour.

This Rider is subject to reconciliation, including, but not limited to, refunds or additional charges to customers, ordered by the Commission as the result of audits by the Commission in accordance with the December 19, 2018, Opinion and Order in Case No. 17-1263-EL-SSO, et al.

RIDER DSM
DEMAND SIDE MANAGEMENT RIDER

APPLICABILITY

Applicable to service rendered under the provisions of the following Rates to retail jurisdictional customers in the Company's electric service territory including those customers taking generation service from a Certified Retail Electric Service (CRES) provider:

Rate RS
Rate ORH
Rate TD
Rate CUR
Rate RS3P
Rate RSLI
Rate DS
Rate GS-FL
Rate EH
Rate DM
Rate DP
Rate SFL-ADPL
Rate TS

The charges calculated under this rider will be charged through Rider DSMR, Demand Side Management Recovery Rate, Sheet No. 129.

CHARGES

The monthly amount computed under each of the rate schedules to which this rider is applicable shall be increased or decreased by the DSM Charge at a rate per kilowatt-hour of monthly consumption, in accordance with the following formula. The calculated rate for non-residential customers will apply to only the first 833,000 billed kWh for each bill:

DSM Charge = PC + LR + PI + BA

Where: PC = PROGRAM COST RECOVERY.
LR = LOST BASE DISTRIBUTION REVENUE FROM LOST SALES RECOVERY.
PI = PDR PROGRAM INCENTIVE RECOVERY.
BA = BALANCE ADJUSTMENT.

For each twelve-month period, the PC shall include all expected costs for the energy efficiency (EE) and demand side management (DSM) programs. Such program costs shall include the cost of planning, developing, implementing, monitoring, and evaluating the DSM programs. The program costs shall also reflect all cost and revenues associated with offering portfolio EE and DSM resources into the PJM Capacity Auctions. Program costs will be assigned for recovery purposes to the rate classes whose customers are directly participating in the program. In addition, all costs incurred associated with the collaborative process, including but not limited to costs for consultants, employees and administrative expenses, will be included in PC for recovery. Administrative costs that are allocable to more than one rate class will be recovered from those classes and allocated by rate class on the basis of the estimated avoided capacity and energy costs resulting from each program.

CHARGES (Cont'd)

Lost base distribution revenues (LR) from lost sales due to EE and DSM programs shall be computed by 1) multiplying the amount of kilowatt-hour sales that will be lost during the year as a result of the implementation of the approved programs times the base distribution charge for the applicable rate schedule, and 2) dividing that product by the expected kilowatt-hour sales for the upcoming twelve-month period. Base distribution charges include only those charges related to distribution base rates, and they do not include any generation-related charges or transmission charges. Recovery of base distribution revenues from lost sales for each rate class shall be included in the LR for three years from the implementation of the measures or until terminated by the implementation of new rates pursuant to a general rate case, whichever comes first. Base distribution revenues from lost sales will be assigned for recovery purposes to the rate classes whose programs resulted in the lost sales. Only those rate classes (e.g., Rates DS, DP, and TS) that are excluded from Rider DDR, Distribution Decoupling Rider, are subject to the LR charge.

The DSM Program Incentive (PI) amount shall be computed by multiplying the after-tax net resource savings expected from the approved programs which are to be installed during the upcoming twelve-month period times the allowed shared savings percentage. The allowed shared savings percentage is 8%. Net resource savings are defined as program benefits less the costs of the program, where program benefits will be calculated on the basis of the present value of the Company's avoided costs over the expected life of the program and will include both capacity and energy savings. The amount related to programs for each rate class shall be divided by the expected kilowatt-hour sales for the upcoming twelve-month period to determine the PI for that rate class. DSM incentive amounts will be assigned for recovery purposes to the rate classes whose programs created the incentive.

The BA is used to reconcile the difference between the amount of revenues actually billed through the respective DSM Charge components; namely, the PC, LR, and PI and previous application of the BA and the revenues which should have been billed, as follows:

For the PC, the balance adjustment amount will be the difference between the actual amount billed in a twelve-month period due to the application of the PC unit charge and the actual costs of the approved programs during the same twelve-month period.

For the LR, the balance adjustment amount will be the difference between the amount billed during the twelve-month period from the application of the LR unit charge and the LR amount established for the same twelve-month period.

For the PI, the balance adjustment amount will be the difference between the actual amount billed during the twelve-month period due to application of the PI unit charge and the program incentive amount determined for the actual DSM programs or measures implemented during the twelve-month period.

For the BA the balance adjustment amount will be the difference between the actual amount billed during the twelve-month period due to the application of the BA unit charge and the balance adjustment amount estimated for the same twelve-month period.

The balance adjustment amounts determined above shall include interest. The interest applied to the monthly amounts, shall be calculated at a rate equal to the average of the "3-month Commercial Paper Rate" for the immediately preceding 12-month period. DSM balance adjustment amounts will be assigned for recovery purposes to the rate classes to which over or under-recoveries of DSM amounts were realized.

All costs recovered through the DSM Charge will be assigned or allocated to Duke Energy Ohio, Inc.'s electric on the basis of the estimated net electric savings resulting from each program.

Filed pursuant to an Order dated in Case No. 20-1013-EL-POR before the Public Utilities Commission of Ohio.

FILINGS

The filing of modifications to the DSM Charge shall be made at least thirty days prior to the beginning of the effective period for billing. Each filing will include the following information as needed:

A detailed description of each EE and/or DSM program.

The total cost of each program over the twelve-month period.

An analysis of expected resource savings.

Information concerning the specific EE and/or DSM or efficiency measures to be installed.

Any applicable studies which have been performed, as available.

A statement setting forth the detailed calculation of each component of the DSM Charge.

Each change in the DSM Charge shall be applied to customers' bills with the first billing cycle of the revenue month which coincides with, or is subsequent to, the effective date of such change.

SERVICE REGULATIONS

The supplying of, and billing for, service and all conditions applying thereto, are subject to the jurisdiction of the Public Utilities Commission of Ohio, and to the Company's Service Regulations currently in effect, as filed with the Public Utilities Commission of Ohio.

Measure Name	Target Annual kWh Savings	Target Annual NonCoincident kW	Target Annual Summer Coincident kW	Target Annual Winter Coincident kW	Measure Life
My Home Energy Report	256.000	9999.000	0.065	9999.000	1
Home Energy House Call - Kit w LEDs	962.400	9999.000	0.087	0.077	14
Home Energy House Call - Additional LED	50.655		0.005	0.009	15
NES Attic Insulation	398.000	9999.000	0.092	0.056	20
NES Air Sealing	667.000	9999.000	0.247	0.072	20
Faucet Aerators MF Direct 1.0 GPM - kitchen	139.3	9999	0.015361069	0.022081537	10
RLEDPM - Globe	30.5	0	0.0044	0.0055	12
RLEDPM - Candelabra	30.9	0	0.0045	0.0056	15
Energy Education Program for Schools	499.000	9999.000	0.134	0.132	7
Low Income Neighborhood	420.000	9999.000	0.130	0.140	8
RCFLSP - Specialty Bulbs Candelabra LED	26.853		0.004	0.005	15
RCFLSP - Specialty Bulbs Globe LED	27.979		0.004	0.005	12
SBES HVAC AC	1.000	9999.000	0.000	0.000	15
SBES HVAC HP	1.000	9999.000	0.000	0.000	15
SBES Lighting 8760	1.040	0.000	0.000	0.000	10
SBES Lighting Daylighting	1.040	0.000	0.000	0.000	10
SBES Lighting DusktoDawn	1.040	0.000	0.000	0.000	10
SBES OccSensors	1.040	0.000	0.000	0.000	10
SBES Refrigeration	1.040	0.000	0.000	0.000	15
Faucet Aerators MF Direct 1.0 GPM - bath	58.74543199	0.160946389	0.007725427	0.011105301	10
Faucet Aerators MF DIY 1.0 GPM - bath	44.679	0.122	0.006	0.008	10
Faucet Aerators MF DIY 1.0 GPM - kitchen	90.344	0.248	0.012	0.017	10
LF Showerhead MF Direct 1.5 GPM	339.048399	0.928899723	0.027866992	0.039013788	10
LF Showerhead MF DIY 1.5 GPM	259.748	0.712	0.021	0.030	10
Pipe Wrap MF Direct	51.47978723	9999	0.005895266	0.005895266	13
Pipe Wrap MF DIY	46.500	9999.000	0.005	0.005	13
Smart Saver - Attic Insul & Air Sealing - Referred	1162.000	9999.000	0.358	0.351	20
Smart Saver - Attic Insul & Air Sealing - Non-Referred	1162.000	9999.000	0.358	0.351	20
My Home Energy Report - Online	256.000	9999.000	0.065	9999.000	1
WTZKWH - CFL_EH	35.253	0.004	0.006	0.004	5

WTZKWH - Energy Efficient Shower Head_EH	161.734	9999.000	9999.000	9999.000	5
WTZKWH - Faucet Aerator_EH	18.743	9999.000	9999.000	9999.000	5
WTZKWH - Refrigerator Replacement_EH	838.622	0.096	0.096	0.096	8
WTZKWH - Water Heater Pipe Insulation_EH	235.666	9999.000	9999.000	9999.000	10
WTZKWH - Water Heater Replacement Electric_EH	124.483	9999.000	9999.000	9999.000	13
WTZKWH - Water Heater Tank Wrap_EH	193.744	9999.000	9999.000	9999.000	5
WTZKWH - CFL_NonEH	51.356	0.006	0.006	0.006	5
WTZKWH - Energy Efficient Shower Head_NonEH	161.734	9999.000	9999.000	9999.000	5
WTZKWH - Faucet Aerator_NonEH	18.743	9999.000	9999.000	9999.000	5
WTZKWH - Refrigerator Replacement_NonEH	1276.652	0.146	0.146	0.146	8
WTZKWH - Water Heater Pipe Insulation_NonEH	235.666	9999.000	9999.000	9999.000	10
WTZKWH - Water Heater Replacement Electric_NonEH	124.483	9999.000	9999.000	9999.000	13
WTZKWH - Water Heater Tank Wrap_NonEH	193.744	9999.000	9999.000	9999.000	5
WTZKWH - ACR Insulation SC Only_EH per home	203.774	9999.000	9999.000	9999.000	25
WTZKWH - ACR Insulation SC Only_NonEH per home	203.774	9999.000	9999.000	9999.000	25
WTZKWH - ACR Insulation SH Only_EH per home	1018.868	9999.000	9999.000	9999.000	25
WTZKWH - Air Sealing SC Only_EH per home	61.612	9999.000	9999.000	9999.000	15
WTZKWH - Air Sealing SC Only_NonEH per home	61.612	9999.000	9999.000	9999.000	15
WTZKWH - Air Sealing SH Only_EH per home	842.037	9999.000	9999.000	9999.000	15
WTZKWH - Floor Insulation SH Only_EH per home	503.455	9999.000	9999.000	9999.000	25
WTZKWH - Foundation Insulation SH Only_EH per home	1731.660	9999.000	9999.000	9999.000	25
WTZKWH - Wall Insulation SC Only_EH per home	223.754	9999.000	9999.000	9999.000	25
WTZKWH - Wall Insulation SC Only_NonEH per home	223.754	9999.000	9999.000	9999.000	25
WTZKWH - Wall Insulation SH Only_EH per home	1200.133	9999.000	9999.000	9999.000	25
RLEDPM - Recessed	43.4	0	0	0	12
PowerManager - Low	0.000	0.000	0.481	0.000	1
PowerManager - Medium	0.000	0.000	1.419	0.000	1
PowerManager - High	0.000	0.000	1.419	0.000	1
Pipe Wrap SF DIY	46.000	0.005	0.004	9999.000	13
PowerShare Summer Only	0.000	0.000	1.000	0.000	1
PowerShare Extended Summer	0.000	0.000	1.000	0.000	1
PowerShare Annual	0.000	0.000	1.000	1.000	1
Faucet Aerators SF DIY 1.0 GPM - bath	110.875	0.012	0.009	9999.000	10
Faucet Aerators SF DIY 1.0 GPM - kitchen	451.375	0.051	0.036	9999.000	10

LF Showerhead SF DIY 1.5 GPM	438.000	0.050	0.035	9999.000	9
LF Wand Showerhead SF DIY 1.5 GPM	438.000	0.050	0.035	9999.000	9
LF Wide Showerhead SF DIY 1.5 GPM	438.000	0.050	0.035	9999.000	9
Smart Saver - Central Air Conditioner Tier 2 - Referred	926.680	9999.000	0.538	0.091	18
Smart Saver - Heat Pump Tier 2 - Referred	2865.921	9999.000	0.464	0.701	18
Smart Saver - Central Air Conditioner Tier 3 - Referred	1167.814	9999.000	0.675	0.112	18
Smart Saver - Heat Pump Tier 3 - Referred	3827.689	9999.000	1.066	0.987	18
Smart Saver - Duct Sealing - Referred	607.826	9999.000	9999.000	9999.000	20
Smart Saver - Central Air Conditioner Tier 2 - Non-Referred	1003.578	9999.000	0.582	0.099	18
Smart Saver - Heat Pump Tier 2 - Non-Referred	3103.740	9999.000	0.502	0.759	18
Smart Saver - Central Air Conditioner Tier 3 - Non-Referred	1264.721	9999.000	0.731	0.122	18
Smart Saver - Heat Pump Tier 3 - Non-Referred	4145.317	9999.000	1.154	1.069	18
Smart Saver - Duct Sealing - Non-Referred	647.496	9999.000	9999.000	9999.000	20
Smart Saver - CRES Smart Thermostat	678.014	0.000	0.000	0.000	11
Smart Saver - VRF Mini-split heat pumps	1702.312	0.622	9999.000	9999.000	18
NES Duct Sealing	645.510	9999.000	9999.000	9999.000	20
Heat Pump Water Heater	2621.613	0.299	0.201	9999.000	10
LED - Retail General Purpose A Line	50.620				12
LED - Retail Reflector Recessed	58.151				20
Smart Thermostat - Non-Referred	753.349	9999.000	0.000	0.000	11
RCFLSP - Specialty Bulbs Recessed LED	44.836		0.006	0.008	20
RCFLSP - Specialty Bulbs A Line LED	50.620		0.005	0.009	15
Home Energy House Call - Pipe Wrap	51.111	9999.000	0.006	0.006	13
Home Energy House Call - Bathroom Aerator	74.595	9999.000	9999.000	9999.000	10
RLEDPM - A-Line	50.65494393	0	0.004940571	0.009320871	12
Pool Pump	1828.427	0.077	0.093	0.000	10
SBDR Switch 30% DR	0.000	0.000	2.250	0.000	1
SBDR Switch 50% DR	0.000	0.000	3.825	0.000	1
SBDR Switch 75% DR	0.000	0.000	6.075	0.000	1
SBDR Thermostat 30% DR	0.000	0.000	2.005	0.000	1
SBDR Thermostat 50% DR	0.000	0.000	3.580	0.000	1
SBDR Thermostat 75% DR	0.000	0.000	5.830	0.000	1
Multifamily MyHER	111.000	9999.000	9999.000	9999.000	1
Multifamily MyHER Interactive	124.000	9999.000	9999.000	9999.000	1

Marketplace LED Fixtures Direct Wire	37.571	0.048	0.005	0.004	18
Marketplace LED Fixtures Portable	19.861	0.025	0.003	0.002	20
SBES HVAC Tune-Up	1.000	9999.000	0.000	0.000	3
SBDR Thermostat EE	872.000	9999.000	9999.000	9999.000	8
Smart Thermostat - Referred	740.999	9999.000	0.000	0.000	11
Marketplace Smart Strips	18.41616901	0.002102302	0.001460154	0.002336247	4
Marketplace Smart Thermostats	493.2333208	9999	0	0	11
Marketplace Showerhead	278.5781701	9999	0.088985204	0.088985204	10
Marketplace Thermostatic Valve Device	73.310	9999.000	0.023	0.023	10
NES Smart Thermostat	493.233	9999.000	0.000	0.000	11
Marketplace Photocell Outdoor Lights Fixtures	227.906	0.062	0.000	0.005	20
Marketplace Air Purifier	403.000	0.069	0.046	0.046	9
Marketplace Dehumidifier	153.022	0.094	0.035	0.000	12
LED - Retail Specialty Globe	17.614				12
LED - Retail Specialty 3 Way	43.963				12
RCFLSP - Specialty Bulbs Recessed Outdoor LED	118.296		0.006	0.023	15
RCFLSP - Specialty Bulbs 3 Way LED	43.963		0.005	0.010	12
LED - Retail Specialty Decorative Candelabra	18.060				15
LED - Retail Fixture	36.718				12
LED - Retail Reflector Outdoor	118.296				15
LED - Retail Reflector Track Lighting	22.778				12
RLEDPM - Track	22.77756403	0	0	0	12

Technology	Product Code	Unit of Measure	Customer Type	Source Author
My Home Energy Report	HECR	per participant	Res	Nexant
Residential Energy Assessments	HEHC	per house	Res	ODC
Residential Energy Assessments	HCLED	per bulb	Res	ODC
Neighborhood Energy Saver	HWLI	per house	Res	Nexant
Neighborhood Energy Saver	HWLI	per house	Res	Nexant
Smart $aver® Residential	MFEEAR	per aerator	Res	Navigant
Smart $aver® Residential	RLEDPM	per bulb	Res	Navigant
Smart $aver® Residential	RLEDPM	per bulb	Res	Navigant
Energy Education Program for Schools	K12PRF	per participant	Res	Cadmus
Neighborhood Energy Saver	HWLI	per participant	Res	ODC
Smart $aver® Residential	RCFLSP	per bulb	Res	Opinion Dynamics
Smart $aver® Residential	RCFLSP	per bulb	Res	Opinion Dynamics
Business Energy Saver	SSBDIR	per kWh	NonRes	Navigant
Business Energy Saver	SSBDIR	per kWh	NonRes	Navigant
Business Energy Saver	SSBDIR	per kWh	NonRes	Navigant
Business Energy Saver	SSBDIR	per kWh	NonRes	Navigant
Business Energy Saver	SSBDIR	per kWh	NonRes	Navigant
Business Energy Saver	SSBDIR	per kWh	NonRes	Navigant
Business Energy Saver	SSBDIR	per kWh	NonRes	Navigant
Smart $aver® Residential	MFEEAR	per aerator	Res	Navigant
Smart $aver® Residential	MFEEAR	per aerator	Res	Navigant
Smart $aver® Residential	MFEEAR	per aerator	Res	Navigant
Smart $aver® Residential	MFEESH	per showerhead	Res	Navigant
Smart $aver® Residential	MFEESH	per showerhead	Res	Navigant
Smart $aver® Residential	MFEEPW	per linear foot of pipe wrapped	Res	Navigant
Smart $aver® Residential	MFEEPW	per linear foot of pipe wrapped	Res	Navigant
Smart $aver® Residential	SSAISR	per HVAC	Res	TecMarket Works
Smart $aver® Residential	SSAISN	per HVAC	Res	TecMarket Works
My Home Energy Report	HECR	per participant	Res	Navigant
Weatherization - Pay Per KWH	WTZKWH	per CFL	Res	Cadmus

Weatherization - Pay Per KWH	WTZKWH	Per Showerhead	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per aerator	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per refrigerator	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per CFL	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	Per Showerhead	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per aerator	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per refrigerator	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Weatherization - Pay Per KWH	WTZKWH	per house	Res	Cadmus
Smart $aver® Residential	RLEDPM	per bulb	Res	TecMarket Works
Power Manager®	PWRMGR	per device	Res	Nexant
Power Manager®	PWRMGR	per device	Res	Nexant
Power Manager®	PWRMGR	per device	Res	Nexant
Smart $aver® Residential	SFEEPW	per linear foot of pipe wrapped	Res	Morgan Marketing Partners
Power Share®	PWRSHR	per KW net of line losses	NonRes	Schneider Electric
Power Share®	PWRSHR	per KW net of line losses	NonRes	Schneider Electric
Power Share®	PWRSHR	per KW net of line losses	NonRes	Schneider Electric
Smart $aver® Residential	SFEEAR	per aerator	Res	Nexant
Smart $aver® Residential	SFEEAR	per aerator	Res	Nexant

Smart $aver® Residential	SFEESH	per showerhead	Res	Nexant
Smart $aver® Residential	SFEESH	per showerhead	Res	Nexant
Smart $aver® Residential	SFEESH	per showerhead	Res	Nexant
Smart $aver® Residential	SSAC2R	per HVAC	Res	Nexant
Smart $aver® Residential	SSHP2R	per HVAC	Res	Nexant
Smart $aver® Residential	SSAC3R	per HVAC	Res	Nexant
Smart $aver® Residential	SSHP3R	per HVAC	Res	Nexant
Smart $aver® Residential	SSDSER	per duct system	Res	Nexant
Smart $aver® Residential	SSAC2N	per HVAC	Res	Nexant
Smart $aver® Residential	SSHP2N	per HVAC	Res	Nexant
Smart $aver® Residential	SSAC3N	per HVAC	Res	Nexant
Smart $aver® Residential	SSHP3N	per HVAC	Res	Nexant
Smart $aver® Residential	SSDSEN	per duct system	Res	Nexant
Smart $aver® Residential	CRSMTS	per HVAC	Res	Nexant
Smart $aver® Residential	VFMSHP	per HVAC	Res	Nexant
Neighborhood Energy Saver	HWLI	per duct system	Res	Nexant
Smart $aver® Residential	HPWH	per Heat Pump Water Heater	Res	Nexant
Smart $aver® Residential	RTLLED	per bulb	Res	Nexant
Smart $aver® Residential	RTLLED	per bulb	Res	Nexant
Smart $aver® Residential	SSSTN	per Thermostat	Res	Nexant
Smart $aver® Residential	RCFLSP	per bulb	Res	Nexant
Smart $aver® Residential	RCFLSP	per bulb	Res	Nexant
Residential Energy Assessments	HCPWRP	per linear foot of pipe wrapped	Res	Nexant
Residential Energy Assessments	HCBAER	per aerator	Res	Nexant
Smart $aver® Residential	RLEDPM	per bulb	Res	Nexant
Smart $aver® Residential	PEEPVS	per pump	Res	Nexant
Power Manager® for Business	SBEEDR	per device	NonRes	Duke Energy
Power Manager® for Business	SBEEDR	per device	NonRes	Duke Energy
Power Manager® for Business	SBEEDR	per device	NonRes	Duke Energy
Power Manager® for Business	SBEEDR	per device	NonRes	Duke Energy
Power Manager® for Business	SBEEDR	per device	NonRes	Duke Energy
Power Manager® for Business	SBEEDR	per device	NonRes	Duke Energy
My Home Energy Report	MFHECR	per participant	Res	Duke Energy
My Home Energy Report	MFHECR	per participant	Res	Duke Energy

Smart $aver® Residential	MPLEDF	per fixture	Res	NPD
Smart $aver® Residential	MPLEDF	per fixture	Res	NPD
Business Energy Saver	SSBDIR	per kWh	NonRes	Duke Energy
Power Manager® for Business	SBEEDR	per device	NonRes	Duke Energy
Smart $aver® Residential	SSSTR	per Thermostat	Res	Duke Energy
Smart $aver® Residential	MPSMST	per Smart Strip	Res	Duke Energy
Smart $aver® Residential	MPSMTS	per Thermostat	Res	Duke Energy
Smart $aver® Residential	MPWTR	per showerhead	Res	Duke Energy
Smart $aver® Residential	MPWTR	per showerhead	Res	Duke Energy
Neighborhood Energy Saver	HWLI	per Thermostat	Res	Duke Energy
Smart $aver® Residential	MPLEDF	per fixture	Res	Duke Energy
Smart $aver® Residential	MPESAP	per air purifier	Res	Duke Energy
Smart $aver® Residential	MPESDH	per dehumidifier	Res	Duke Energy
Smart $aver® Residential	RTLLED	per bulb	Res	Duke Energy
Smart $aver® Residential	RTLLED	per bulb	Res	Duke Energy
Smart $aver® Residential	RCFLSP	per bulb	Res	Duke Energy
Smart $aver® Residential	RCFLSP	per bulb	Res	Duke Energy
Smart $aver® Residential	RTLLED	per bulb	Res	Duke Energy
Smart $aver® Residential	RTLLED	per bulb	Res	Duke Energy
Smart $aver® Residential	RTLLED	per bulb	Res	Duke Energy
Smart $aver® Residential	RTLLED	per bulb	Res	Duke Energy
Smart $aver® Residential	RLEDPM	per bulb	Res	Duke Energy

Source Type
Duke Energy Ohio EM&V Evaluation
Duke Energy Ohio EM&V Evaluation
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Engineering Estimates
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Ohio Market Potential Study
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