

**BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Approval of its)	Case No. 16-576-EL-POR
Energy Efficiency and Peak Demand)	
Reduction Portfolio of Programs.)	

**DUKE ENERGY OHIO, INC.'S APPLICATION
FOR ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION
PORTFOLIO OF PROGRAMS**

I. Introduction

Now comes Duke Energy Ohio, Inc. (Duke Energy Ohio) pursuant to R.C. 4928.66, as amended by Substitute Senate Bill Number 310 (SB310) and Rule 4901:1-39-04, Ohio Administrative Code (O.A.C.), and submits its proposed portfolio of energy efficiency and demand reduction programs. Duke Energy Ohio is an electric distribution utility as defined in R.C. 4928.01(A)(6), and is therefore required by R.C. 4928.66, *et seq.*, to implement energy efficiency and peak demand reduction programs designed to achieve energy savings.

Duke Energy Ohio submitted its last energy efficiency and peak demand reduction portfolio for approval by the Public Utilities Commission of Ohio (Commission) on April 15, 2013. The Commission approved the portfolio on December 4, 2013 and it was effective through 2016.

A. Background and History and Executive Summary

Duke Energy Ohio has been offering energy efficiency programs since as early as 1992. In 1992, Duke Energy Ohio formed a collaborative to develop and implement energy efficiency programs to help reduce the electrical demand of customers. The Company has worked

effectively with its Collaborative since then and has continuously offered energy efficiency programs for its customers.

In 2006, Duke Energy Ohio filed an application with the Public Utilities Commission of Ohio (Commission), seeking approval to implement a new expanded set of energy efficiency programs.¹ On July 11, 2007, the Commission approved the new set of energy efficiency programs for implementation.² As part of the proceeding on the Company's Electric Security Plan (ESP) in 2008, the Company filed an application for approval to implement its save-a-watt set of energy efficiency programs.³ As noted earlier, the Company filed the proposed programs on July 31, 2008, and the Commission subsequently approved the save-a-watt set of programs on December 17, 2008, for implementation for the years 2009 through 2011.⁴ On December 29, 2009, the Company filed an updated portfolio plan for approval.⁵ The portfolio, except for pre-paid metering, was approved on December 15, 2010, for implementation through April 15, 2013.⁶

In 2011, in an earlier attempt to bridge the gap between the misalignment of its portfolio plan approved in Case No. 09-1999-EL-POR, and its expiring save-a-watt recovery model, Duke Energy Ohio submitted an energy efficiency portfolio and cost recovery mechanism to the Commission for its approval in Case No. 11-4393-EL-RDR, *et al.* The Company was able to resolve most of the substantive issues in its application with most of the parties, in a Stipulation and Recommendation that was filed with the Commission in November, 2011. After receiving

¹ *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, Application (January 24, 2006)

² *Id.* Opinion and Order, (July 11, 2007)

³ *In re Duke Energy Ohio's Application for an SSO*, Case No. 08-920-EL-SSO, et seq., Application, (July 31, 2008)

⁴ *In re Duke Energy Ohio's Application for an SSO*, Case No. 08-920-EL-SSO, et seq., Opinion and Order, (December 17, 2008)

⁵ *In re Duke Energy Ohio's Application for a POR*, Case No. 09-1999-EL-POR, Application, (December 29, 2009)

⁶ *In re Duke Energy Ohio's Application for a POR*, Case No. 09-1999-EL-POR, Opinion and Order, (December 15, 2010)

further direction from the Commission in its May 9, 2012 Opinion and Order, the Company requested the Commission grant it a waiver of a Rule in Chapter 4901:1-39, O.A.C., and approve its application based upon the information contained. The waiver was granted on August 15, 2012, within the Order approving the implementation of three new programs, as well as a shared savings cost recovery mechanism. The three new approved programs were, 1) Low Income Neighborhood Program, 2) Appliance Recycling, and 3) Home Energy Solutions. Duke Energy Ohio filed a portfolio including a Market Assessment and Action plan⁷, for program years 2014 – 2016.

With this Application, the Company seeks approval pursuant to 4901:1-39-04, O.A.C., for a new portfolio of energy efficiency and peak demand reduction programs. 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 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 witness Kevin A. Bright explains residential and non-residential program implementation, and Duke Energy Ohio witness James E. Ziolkowski testifies concerning revenue requirements and rate implementation.

The programs included herein were proposed and approved by the Commission in the Company's program portfolio plan, Case No. 13-0431-EL-POR, and are currently being offered.⁸ In addition to the approved portfolio a new program, Small Business Energy Saver, was filed and approved on September 10, 2014 in Case No. 14-964-EL-POR, as well as, a Weatherization Pilot approved on May 15, 2013 in Case No. 13-662-EL-UNC. The Company

⁷ Case No. 13-0431-EL-POR

⁸ *In re Duke Energy Ohio's Application for a RDR*, Case No. 13-0431-EL-POR, Opinion and Order, (December 4, 2013)

proposes to continue most of these programs, and proposes to add additional measures to many of the existing programs.

Residential Programs

Prior Program Name	New Program Name	Program Description
Energy Efficiency Education Program for Schools	Energy Efficiency Education Program for Schools	The Energy Education Program for Schools is designed to educate students on the value of energy efficient behavior, promote on-site school audits and encourage students to install energy efficiency measures in the home.
Home Energy Comparison Report	My Home Energy Report (MyHER)	Compares household electric usage to similar, neighboring homes, and provides recommendations to lower energy consumption
Low Income Neighborhood Program	Low Income Neighborhood 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 energy efficiency measures.
Residential Energy Assessments	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.
Smart Saver® Residential	Smart Saver® Residential	Offers customers a variety of energy conservation measures designed to increase energy efficiency in their homes.
Weatherization Pilot	Pay for Performance Weatherization	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.
Power Manager	Power Manager®	Residential Load Control Program
NEW PROGRAM	Power Manager® for Apartments	Residential Load Control Program

Smart Saver® Residential – This program includes measures for lighting, HVAC Equipment and Services, Save Water and Energy Kits, and Multifamily products and services.

Residential Lighting

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

HVAC Equipment and Services

The HVAC Equipment and Services measures within the Smart Saver® Program offers incentives to customers for installing high efficiency HVAC measures including attic insulation and sealing, duct insulation and sealing, heat pump water heaters, and variable speed pool

pumps. In addition to the current program, a smart thermostat has been added to fill out the measures and make the program even more comprehensive.

Save Energy and Water Kit

The Save Energy and Water Kit (“SEWK”) is designed to increase the energy efficiency 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.

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 energy efficiency products including, but not limited to efficient lighting and water saving measures.

Residential Energy Assessments – Residential Energy Assessments 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 energy efficiency in their 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 a number 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.

Home Energy Comparison Report (My Home Energy Report – MyHER) - The My Home Energy Report (“MyHER”) is an energy efficiency 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 energy efficiency tips and guidance, enabling them to become more energy efficient and lower their electric bills.

Currently the MyHER is only available to customers living in single family homes. The Company is developing a My Home Energy Report for multifamily homes as well. The report will be similar in the comparison data provided; however, multifamily dwellings will be compared to other multifamily dwellings and the tips on the report will be tailored to the behavior changes and efficiency changes a multifamily dwelling can make.

Energy Efficiency Education for Schools - The Energy Efficiency Education Program for Schools is available to students K-8 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 household at no direct cost.

Low Income Neighborhood Program - The Low Income Neighborhood Program, known as Neighborhood Energy Saver or NES, assists low-income customers in reducing energy costs through energy education and installation of energy efficient measures. 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. Additionally, the customer receives an easy to install package of energy efficient measures.

Power Manager[®] - 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 device is attached to the outdoor air conditioning unit of participating customers. For water heaters, the device is installed on or near the appliance. 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. The water heater device will enable Duke Energy Ohio to cycle off electric water heaters during times of high electric demand—year round.

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 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 customers' homes based on the average kWh savings per measure.

Low Income Services – The Weatherization and Refrigerator Replacement program is available to all customers within Duke Energy's service territory, with a household income up to 200% of the federal poverty level and who have not participated in the program within the past 10 years. Due to vendor negotiations, the program will no longer be a standalone program however income qualified customers will be eligible to receive refrigerator replacement and weatherization through the Low Income Weatherization Pay for Performance program. Duke Energy Ohio will continue to evaluate a standalone program.

New Residential Program: Power Manager® for Apartments - Power Manager® for Apartments is a residential load control program focused on Apartment Complexes/Communities. It is used to reduce electricity demand by controlling residential air conditioners and when available, electric water heaters during periods of peak demands. A load control switch is attached to the outdoor air conditioning unit and water heater of participating customers. This 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 during the cooling season. In addition, this program enables Duke Energy Ohio to cycle the electric water heaters off when the load on the system reaches peak levels—any time of year.

Discontinued Residential Programs:

Appliance Recycling Program - The Appliance Recycling Program promotes the removal and responsible disposal of operating refrigerators and freezers from Duke Energy Ohio residential customers. This program recycles approximately 95% of the material from the harvested appliances. The refrigerator or freezer must have a capacity of at least 10 cubic feet but not more than 30 cubic feet. This program includes a free pick up at the customer's home and provides a cash incentive for qualified appliances.

On November 19, 2015, JACO, the implementation vendor, went into receivership and abruptly discontinued operations. Duke Energy analyzed the long-term design and viability of the program as well as the potential to issue a request for proposal for an alternative program vendor. Unfortunately, given the verified impacts compared to the cost of the program, Duke Energy Ohio will not be including Appliance Recycling in its portfolio, but will continue to research the program and determine if a cost effective approach to reaching this opportunity for efficiency can be developed.

Home Energy Solutions - Home Energy Solutions (HES), which is formally being marketed as HōM™ Energy Manager, provides customers with up to 2 free Wi-Fi enabled, programmable thermostats with professional installation. They also have full access to an online customer engagement portal that is accessible through mobile devices, tablets and PCs with Internet access. The portal allows customers to control their energy usage by adjusting their temperature settings, viewing energy efficiency tips and reviewing their historical energy usage compared to similar homes and neighbors.

Due to the verified impacts and the on-going cost of the program, Duke Energy Ohio is not planning on offering this program beyond 2016. The Company will review and evaluate the Assessment of Potential Study results to determine if this program can be offered in a modified format that will allow it to be cost-effective. In the interim, because the Company offers customers Power Manager[®] and will be offering a smart thermostat within Smart Saver[®] Residential, Duke Energy Ohio is providing customers with alternative approaches to realize a portion of the Home Energy Solutions benefits.

Non-Residential Programs

Prior Program Name	New Program Name	Program Description
Smart Saver [®] Prescriptive	Smart Saver [®] Prescriptive	Provides incentives to commercial and industrial consumers for installation of high efficiency equipment in applications involving new construction, retrofit, and replacement of failed equipment.
Smart Saver [®] Custom	Smart Saver [®] Custom	The purpose of this program is to encourage the installation of high efficiency equipment in new and existing nonresidential establishments
Small Business Energy Saver	Small Business Energy Saver	The purpose of this program is to reduce energy usage through the direct installation of energy efficiency measures within qualifying small non-residential customer facilities
PowerShare [®]	PowerShare [®]	Duke Energy Ohio's Non-Residential Peak Load Management Program
NEW PROGRAM	Power Manager [®] for Business	Duke Energy Ohio's Non-Residential Peak Load Management Program

Smart Saver[®] Prescriptive - The Smart Saver[®] Non-Residential Prescriptive Incentive provides incentives to commercial and industrial consumers for installation of energy efficient equipment in applications involving new construction, retrofit, and replacement of failed equipment. This program also uses incentives to encourage maintenance and operations of existing equipment in a manner that allows its efficiency to be enhanced in order to reduce energy usage. Incentives are provided based on Duke Energy Ohio's cost effectiveness modeling to assure cost effectiveness over the life of the measure.

Smart \$aver[®] Custom - Duke Energy's Smart \$aver[®] Non-Residential Custom Incentive offers financial assistance to qualifying commercial, industrial and institutional customers to enhance their ability to adopt and install cost-effective electrical energy efficiency projects.

This program is designed to meet the needs of Duke Energy customers with electrical energy saving projects involving more complicated or alternative technologies, or those measures not covered by standard Prescriptive Smart \$aver[®] Incentives.

Small Business Energy Saver - The objective of the Small Business Energy Saver ("SBES") is to enable the installation of high efficiency equipment in existing small non-residential facilities. SBES is designed to offer a convenient, turn-key process for non-residential customers with energy usage below a certain threshold. SBES launched in November, 2014 in Ohio and has been popular and successful with small business customers since inception. Small 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 energy efficiency offering which facilitates the direct installation of energy efficiency measures, and minimizes financial obstacles with significant upfront incentives from Duke Energy Ohio which offset the cost of projects.

PowerShare[®] - PowerShare[®] is Duke Energy Ohio's demand response 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.

New Non-Residential Program: Power Manager® for Business - Power Manager® for Business is a non-residential program that provides business customers with the opportunity to participate in demand response, earn incentives and realize optional energy efficiency benefits. This program is designed as a flexible offer that provides small-to-medium size business customers with options on device types as well as level of demand response participation. Customers first select the type of device from two available options: thermostat or switch. Customers who opt for the thermostat will have the ability to manage their thermostat remotely via computer, tablet or smartphone. The thermostat comes with presets designed to help the business manager/owner set an efficient schedule that works for their business. This realizes additional benefits in the form of EE impacts/savings. Customers then select one of three levels of summer demand response (“DR”) participation, and earn an incentive based upon that selection.

Both thermostat and switch customers have the same DR participation options, and receive the same DR incentives.

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

This portfolio of programs represents a comprehensive peak demand reduction and energy efficiency plan of action. The approach being pursued through the continuation of existing programs, introduction of new proposed programs and the addition of multiple new measures will provide market access for cost-effective demand reduction and energy efficiency

for all customer classes. In addition to the Company proposed programs, Duke Energy Ohio also offers the Self Direct program available to qualifying Mercantile customers.

Implementation of Duke Energy Ohio's portfolio of programs is expected to enable Duke Energy Ohio to meet or exceed the statutory benchmarks for peak demand reduction and energy efficiency for the timeframe of this portfolio, January 1, 2017 – December 31, 2019.

In compliance with the requirements of 4901:1-39, O.A.C, Duke Energy Ohio is in the process of having an Assessment of Potential study completed. Duke Energy Ohio will file the completed energy efficiency market potential study that is being prepared by Nexant to address any potential gaps in its program offerings. Duke Energy Ohio respectfully requested a waiver⁹ for Rule 4901:1-39-04(A) and requested an October 15, 2016 due date. The Commission ruled that an extension would be granted to June 15, 2016. This expedited date will not allow enough time for Nexant to complete its thorough assessment of potential study that will be utilized to make sure its portfolio is comprehensive and consistent with the changes made to the counting of energy efficiency savings that were instituted with the passage of Ohio SB 310 in 2014. Duke Energy Ohio respectfully requested an extension¹⁰ to file the assessment of potential study to October 15, 2016 along with the opportunity to adjust the portfolio with the results from the study including the historical performance versus the baselines. On June 13, 2016 the Commission ordered the assessment of potential study to be filed on August 15, 2016. Duke Energy Ohio will file the study on or before August 15 and will integrate the findings into its programs and amend its filing as necessary by October 15, 2016 as discussed with the Duke Energy Community Partnership (Collaborative).

⁹ Case No. 16-0576-EL-POR

¹⁰ Case No. 16-1017-EL-WVR

4901:1-39-03 Program Planning Requirements

(A) Assessment of potential.

Prior to proposing its comprehensive energy efficiency and peak-demand reduction program portfolio plan, an electric utility shall conduct an assessment of potential energy savings and peak-demand reduction from adoption of energy efficiency and demand-response measures within its certified territory, which will be included in the electric utility's program portfolio filing pursuant to rule 4901:1-39-04 of the Administrative Code. 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. Such assessment shall include, but not be limited to, the following:

(1) *Analysis of technical potential.* Each electric utility shall survey and characterize the energy-using capital stock located within its certified territory and quantify its actual and projected energy use and peak demand. Based upon the survey and characterization, the electric utility shall conduct an analysis of the technical potential for energy efficiency and peak-demand reduction obtainable from applying alternate measures.

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. This Market Potential study is expected to be completed by August 15, 2016 and the results of this study will be used to further refine the EE and DR portfolio submitted by the Company in this filing.

(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.

As part of the Market Potential Study referenced above, Nexant will also provide an analysis of the Economic Potential as calculated using the total resource cost test.

(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.

As part of the Market Potential Study referenced above, Nexant will provide an analysis of a set of bundled measures that will be designed to overcome barriers to customer adoption.

(4) 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 peak-demand reduction, cost, and non-energy benefits.

This information will be included within the final version of the Market Potential Study. Duke Energy Ohio will use this information to adjust the portfolio with the results from the study including the historical performance versus the baselines.

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

As noted above, Duke Energy Ohio works closely and cooperatively with external stakeholders through the Collaborative process. The Company's energy efficiency 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, 2016, and is being used with respect to the portfolio of programs that the Company is requesting approval of in this application. Duke Energy has had meetings with external stakeholders and a Duke Energy Collaborative meeting to discuss the portfolio.

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

Although Duke Energy Ohio does not coordinate its programs with the other public utilities, it does participate in ongoing dialogue with some of the 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).

4901:1-39-04 (C) (4) Existing 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 as well as a description of a proposed program and additional information as required by O.A.C. 4901:1039-04(C)(5).

New Proposed Programs

The Company is proposing two new programs within this application. The programs are a residential program called "Power Manager[®] for Apartments" and a non-residential program called "Power Manger[®] for Business". Both programs were presented to the Collaborative in the second quarter 2016 meeting. Information related to these new proposed programs is discussed in the testimony of Duke Energy Ohio witness Kevin A. Bright, included with this Application.

Descriptions Applicable to All Programs

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

Rule 4901:1-39-04(C)(5)(b) O.A.C.: ¹¹ Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

Rule 4901:1-39-04(C)(5)(d) O.A.C.: The Company is seeking implementation approval of three years duration for each program.

Rule 4901:1-39-04(C)(5)(e) O.A.C.: 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.

Rule 4901:1-39-04(C)(5)(k), O.A.C.: For the proposed market transformation activities, if any, which have been identified and proposed to be included in the program portfolio plan, the common response is:

Promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue

¹¹ For Energy Efficiency Programs

to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

Rule 4901:1-39-04(C)(5)(I) O.A.C.: The evaluation, measurement, and verification plans for each program are provided in Exhibit TAH1, that is included with the testimony of Trisha A. Haemmerle.

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

The cost-effectiveness test results for the new programs are provided below in Table 1 below. Following the table are descriptions of each of the programs proposed for inclusion with the Company's Portfolio.

Table 1:

Program/Portfolio Cost Effectiveness - 2017-2019				
Program	UCT	TRC	RIM	PCT
Residential Programs - EE				
Energy Efficiency Education Program for Schools	3.22	4.51	2.03	
Home Energy Comparison Report	1.73	1.73	1.06	
Low Income Neighborhood Program	0.64	1.34	0.58	
Power Manager®	7.46	15.10	7.46	
Power Manager® for Apartments	2.08	3.14	2.08	
Residential Energy Assessments	1.15	1.26	0.94	
Smart Saver Residential	1.75	1.69	1.26	4.55
Low Income Weatherization - Pay for Performance	4.99	4.99	2.67	
Total	3.24	3.76	2.39	7.53
Non-Residential Programs				
Mercantile Self-Direct	3.69	0.73	2.59	1.24
Power Manager® for Business	3.07	4.84	3.02	
PowerShare®	2.71	10.52	2.71	
Small Business Energy Saver	3.05	1.82	2.45	2.53
Smart Saver Non Residential Custom	2.81	0.80	2.10	1.47
Smart Saver Non Residential Prescriptive	1.94	1.13	1.62	1.96
Total	2.63	1.40	2.18	1.92
Overall Portfolio Total	2.94	2.17	2.30	2.85

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

The following descriptions are in response to the requirements set forth in Rule 4901:1-39-04 (C) (4).

Program Name: Smart \$aver[®] Residential

(a) This program includes measures for lighting, HVAC Equipment and Services, Save Water and Energy Kits, and Multifamily products and services. The Residential Lighting measures within the Smart \$aver[®] Program have three basic components, a Free LED offer, 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, duct insulation and sealing, heat pump water heaters, and variable speed pool pumps. In addition to the current program, a smart thermostat has been added as an available measure.

The Save Energy and Water Kit (“SEWK”) is designed to increase the energy efficiency 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 load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	3,395	6,825	10,165
kWh	31,860,748	63,902,026	94,788,297
Participants	1,009,178	2,050,379	2,955,537

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

(c) Residential

(d) Three years (2017 – 2019)

(e) See above (b)

(f) Duke Energy Ohio served homeowners or renters currently residing or building a single family residence, condominium, duplex, apartment, or mobile home.

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

(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 Media¹²

h. Other Duke Energy Program collaboration efforts

(h) Third party vendors will be used

¹² Earned media refers to favorable publicity gained through promotional efforts other than advertising.

(i) The projected program budget:

	2017	2018	2019
Annual Utility Costs	\$7,879,154	\$7,726,410	\$7,065,579

(j) Varies by measure

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: 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 Building Performance Institute (“BPI”) certified energy specialist provides and discusses a customized report to the customer that identifies actions the customer can take to increase energy efficiency in their 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 load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	204	409	617
kWh	1,670,100	3,356,901	5,060,402
Participants	17,500	35,175	53,025

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

(c) Residential

(d) Three years (2017 – 2019)

(e) See above (b)

(f) Available to individually metered residential customers receiving concurrent service from the Company. On-site assessments are only available to owner-occupied single family residences with at least 4 months of billing history.

(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.

Home Energy House Call program information and an online assessment request form is available at <http://www.duke-energy.com/ohio/savings/home-energy-house-call.asp>.

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

(i) The projected program budget:

	2017	2018	2019
Annual Utility Costs	\$ 1,033,319	\$ 1,057,844	\$ 1,063,925

(j) Not applicable

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: My Home Energy Report

(a) The My Home Energy Report (“MyHER”) is an energy efficiency program based on behavioral science to motivate energy efficient behavior. This program uses 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. The Company is developing a My Home Energy Report for multifamily homes as well. The report will be similar in the comparison data provided; however, multifamily dwellings will be compared to other multifamily dwellings and the tips on the report will be tailored to the behavior changes and efficiency changes a multifamily dwelling can make.

(b) Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	25,019	25,177	25,201
kWh	97,847,412	98,463,103	98,559,874
Participants	400,052	400,853	401,661

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

(c) Residential

(d) Three years (2017 – 2019)

(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 My Home Energy Report is sent via direct mail and online to targeted Duke Energy Ohio customers with desirable characteristics who are likely to respond to the information. The reports are distributed up to 12 times per year; however delivery may be interrupted during the off-peak energy usage months in the fall and spring.

(i) The projected program budget:

	2017	2018	2019
Annual Utility Costs	\$ 4,622,106	\$ 4,708,403	\$ 4,745,667

(j) Not applicable

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: Energy Efficiency Education Program for Schools

(a) This program educates students in the classroom about sources of energy and energy efficiency 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 load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	863	1,727	2,590
kWh	3,209,568	6,419,136	9,628,704
Participants	6,000	12,000	18,000

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

(c) Residential

(d) Three years (2017 – 2019)

(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
- c. Printed Collateral
- d. Social Media
- e. Earned media¹³

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:

	2017	2018	2019
Annual Utility Costs	\$ 503,192	\$ 506,039	\$ 507,834

(j) Not applicable

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and

¹³ Earned media refers to favorable publicity gained through promotional efforts other than advertising.

behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: 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. For water heaters, the switch is installed on or near the appliance. 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. The water heater switch will enable Duke Energy Ohio to cycle off electric water heaters during times of high electric demand—year round.

(b) Regarding the basis for the load impacts of Power Manager® and PowerShare®, which have been evaluated annually for several years, Duke Energy Ohio has contracted third-party EM&V consultants to provide annual evaluations. These evaluations follow recommended industry practices, PJM guidelines, and/or are based on primary data collected from DR devices attached to the customers' air conditioner, data loggers, and interval/AMI meters. Appendix A includes the measures, impacts, and listing of source documentation.

	2017	2018	2019
kW	48,589	49,800	50,859
kWh	-	-	-
Participants	45,447	46,894	48,188

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

(c) Residential

(d) Three years (2017 – 2019)

(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 and/or eligible electric water heaters.

(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 and/or water heaters 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:

	2017	2018	2019
Annual Utility Costs	\$ 2,058,344	\$ 1,984,209	\$ 2,039,294

(j) Not applicable

(k) The Company believes promoting investment in energy efficiency and demand response measures and customer engagement will advance the adoption of energy efficiency and demand response measures and behavior.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: Low Income Neighborhood Program

(a) The Duke Energy Ohio Neighborhood 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 load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	184	367	551
kWh	600,001	1,200,001	1,800,002
Participants	1,339	2,678	4,017

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

(c) Low Income Residential

(d) Three years (2017 – 2019)

(e) See above (b)

(f) This program will be available to both homeowners and renters occupying single family and multi-family dwellings in the target neighborhoods that have electric service provided by Duke Energy Ohio.

(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:

	2017	2018	2019
Annual Utility Costs	\$ 587,106	\$ 588,437	\$ 590,590

(j) Not applicable

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: 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 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 will partner with 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 fee per measure installed in Duke Energy customers' homes based on the average kWh savings per measure.

(b) Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	1,040	2,080	3,119
kWh	4,922,709	9,845,418	14,768,128
Participants	15,685	31,369	47,054

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

(c) Low Income Residential

(d) Three years (2017 – 2019)

(e) See above (b)

(f) This program will be available to both homeowners and renters occupying single family and multi-family dwellings that have electric service provided by Duke Energy Ohio.

(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:

	2017	2018	2019
Annual Utility Costs	\$ 890,149	\$ 893,994	\$ 896,213

(j) Not applicable

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: Non-Residential Smart Saver[®] Prescriptive

(a) The Smart Saver[®] Prescriptive program consists of over 250 measures including but not limited to the five broad technology categories of: Lighting, HVAC, Motors/Pumps/Drives, Energy Star Food Service Equipment, Process Equipment, and Information Technology. The incentives offered are designed to offset a portion of the capital cost of moving to higher efficiency equipment. Incentives are also offered to offset the cost of proactive maintenance on existing equipment. The incentive amounts are known to the customer

before they undertake their project, so the customer can proceed with their project and submit documentation after installation.

(b) Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	6,001	12,123	18,225
kWh	40,844,357	82,505,601	124,303,798
Participants	608,471	1,229,112	1,858,886

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

(c) Commercial, industrial and government facilities

(d) Three years (2017 – 2019)

(e) See above (b)

(f) All non-residential customers served by Duke Energy in Ohio are eligible for the Smart Saver[®] program. Although customers may choose to opt-out of the Duke Energy program and energy efficiency rider.

(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 Business and Large Business websites for each technology type.

(i) The projected program budget:

	2017	2018	2019
Annual Utility Costs	\$ 6,562,791	\$ 6,725,816	\$ 6,878,144

(j) Varies by measure

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: Smart Saver[®] Custom

(a) The Smart Saver[®] Custom program is intended to capture quantifiable energy savings from projects that do not fit into the Prescriptive portfolio. A key difference between the Prescriptive and Custom programs is that the current Custom program requires that the customer submit an application before they begin their project. Proposed energy efficiency measures may be eligible for Custom Incentives if they clearly reduce electrical consumption and/or demand. Application forms are available on the Duke Energy

website under the Smart Saver[®] Incentives Business and Large Business tabs. Once a project is submitted, it undergoes a technical review to validate the viability of the technology and the reasonableness of the energy savings claims. After the technical review, the energy savings are modeled against the customers load profile (or a representative load profile) to calculate the avoided energy and avoided capacity associated with the installation. At this point, the customer is tendered an incentive offer. Provided the customer acknowledges acceptance of the offer and completes the project, the customer is issued an incentive check after providing documentation showing completion of the project. Duke Energy Ohio reserves the right to adjust the incentive amount paid either up or down should the installation deviate from what was originally submitted. Potential incentive amounts are based on the avoided energy and avoided capacity produced by the measure(s).

Additionally, Duke Energy continually considers program process improvements that might enable greater participation. One such anticipated change is calculation assistance for customers that have proposed energy efficiency projects of sufficient value, as determined by Duke Energy, but that lack internal or other resources to perform the engineering calculations required by the Custom Incentive program.

Both the Smart Saver[®] Prescriptive and Custom programs allow for customers to either receive their incentive checks directly, or to assign them to a vendor, provided the vendor reduces the amount invoiced to the customer by the amount of the incentive.

(b) Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs.

Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	2,689	4,921	7,220
kWh	23,557,184	43,109,647	63,248,684
Participants	15,702	28,735	42,159

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

- (c) Commercial, industrial and government facilities
- (d) Three years (2017 – 2019)
- (e) See above (b)
- (f) All Duke Energy Ohio non-residential customers who have not opted out are eligible to receive Custom Incentives.
- (g) Program promotional channels will include, but not be limited to:
 - a. Equipment providers, contractors, engineering firms and other trade allies.
 - b. Email
 - c. Newsletters
 - d. Direct Mail
 - e. Duke Energy website
 - f. Account and Segment Managers
- (h) The Custom Incentive Program was implemented in 2009 and will continue forward as an ongoing program with processes as described in section (a).
- (i) The projected program budget:

	2017	2018	2019
Annual Utility Costs	\$ 3,008,863	\$ 2,659,400	\$ 2,751,076

(j) Varies by measure

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: Small Business Energy Saver

(a) The objective of the Small Business Energy Saver (“SBES”) is to enable the installation of high efficiency equipment in existing small non-residential facilities. SBES is designed to offer a convenient, turn-key process for small non-residential customers. SBES launched in November, 2014 in Ohio and has been popular and successful with small business customers since inception. Small 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 energy efficiency offering which facilitates the direct installation of energy efficiency 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 load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs.

Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and 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.

	2017	2018	2019
kW	5,907	11,617	16,659
kWh	26,257,838	51,639,429	74,051,858
Participants	24,713,200	48,601,700	69,695,700

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

(c) Commercial, industrial and government facilities

(d) Three years (2017 – 2019)

(e) See above (b)

(f) Non-residential small business customers served by Duke Energy in Ohio are eligible for the Small Business Energy Saver Program.

(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:

	2017	2018	2019
Annual Utility Costs	\$ 5,252,572	\$ 5,098,983	\$ 4,524,267

(j) Varies by measure

(k) The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program Name: PowerShare®

(a) PowerShare® is Duke Energy Ohio's demand response program offered to commercial and industrial customers. The program offers various options for customers to choose from.

(b) Regarding the basis for the load impacts of Power Manager® and PowerShare®, which have been evaluated annually for several years, Duke Energy Ohio has contracted third-party EM&V consultants to provide annual evaluations. These evaluations follow recommended industry practices, PJM guidelines, and/or are based on primary data collected from DR devices attached to the customers' air conditioner, data loggers, and interval/AMI meters. Appendix A includes the measures, impacts, and listing of source documentation.

	2017	2018	2019
kW	46,203	32,160	32,160
kWh	-	-	-
Participants	43,100	30,000	30,000

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

(c) Non-residential customers

(d) Three years (2017 – 2019)

(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 consists of an emergency provision wherein the customer agrees to interruptions for curtailments initiated by the Regional Transmission Operator, PJM Interconnection, Inc., (PJM). For 2017-18, these offers are based upon the PJM program requirements for the years of this portfolio filing. 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 DEOK node during the emergency event hours.

(i) The projected program budget:

	2017	2018	2019
Annual Utility Costs	\$ 3,029,934	\$ 2,423,793	\$ 2,447,707

(j) Not applicable

(k) The Company believes promoting investment in energy efficiency and demand response measures and customer engagement will advance the adoption of energy efficiency and demand response measures and behavior.

(l) The EM&V plans for each program are provided in Exhibit TAH1.

Program summaries for each program are available in Appendix B.

The following descriptions are in response to 4901:1-39-04 (C) (5).

Additional Programs

With respect O.A.C. Rule 4901:1-39-03(B) Program Design Criteria:

Power Manager[®] For Apartments

(1) Cost Effectiveness

	Utility Test	TRC Test	RIM Test	Participant Test
	2.08	3.14	2.08	Not Applicable

(2) The program pays incentives to both the tenants and the landlord without any charges to customers—so both the landlord and tenants benefit from the program. Since this Demand Response program passes the RIM test (see “1” above) the program benefits are greater than program costs, and thus lowers overall electric rates for non-participating customers in the residential class

(3) This program offering broadens the availability of the residential demand response program “Power Manager[®]” to those living in apartments that have central air conditioning or heat pumps. Apartments, on-average, contain few occupants and are less than half the size of a single family home—plus have the additional issue of not being

owner-occupied. It is actually the landlord who owns the appliances that can be controlled, and permission must first be attained from the landlord before a Power Manager[®] device can be installed. For those reasons, some modifications to the program design of Power Manager[®] were required in order to better meet the needs of this segment of the population. There are estimated to be about 30,000 apartment-dwelling customers of Duke Energy Ohio who will be eligible for this program.

Duke Energy Ohio has used a fairly conservative customer adoption rate of 10% cumulative participation of the eligible market through 6 years for the program.

(4) Regarding the basis for the load impacts, program managers and analysts produce the impact estimates using industry information from a variety of sources, including but not limited to, Morgan Marketing Partners, CleaResult, and/or other utility program information and evaluations. Over time, as impact and process evaluations are performed on this program, information and input specifically related to this program will be used within future cost-effectiveness analyses. Based on the projected participation, the forecasted peak demand reduction associated with the Power Manager[®] for Apartments program are summarized in the table below:

	2017	2018	2019
kW	67	399	792
kWh	-	-	-
Participants	94	476	915

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

The EM&V plans for each program are provided in Exhibit TAH1.

(5) Apartment landlords can use the program availability as a differentiation in the market for prospective tenants—showing an attention to energy and environment issues as well as reducing costs for tenants.

(6) Given the nature of the program, the Power Manager[®] for Apartments program is solely targeted at residential customers. Other demand response offers are included in this application for business customers. The intention is that this program will help improve the opportunity for this segment of the residential customer group to participate in demand response programs.

(7) The Power Manager[®] for Apartments program will primarily benefit retrofitting existing capital stock—the existing base of apartments in the Duke Energy Ohio service area. There is also the potential for participation for new apartments built in the service area to house participants.

(8) Duke Energy Ohio sees synergistic opportunities with the Multifamily Energy Efficiency program, as both efforts address the same market—landlords who care about providing savings to their tenants through reduction in their electric bill.

(9) Adding control of electric water heating for those who accept an air conditioning control device is the example of how this program “bundles” measures to attain peak reductions that would not be cost-effective on its own.

(10) This program leverages equipment, installation and software vendors already used in the existing Power Manager[®] program—which has over 40,000 current participants. This combination of existing program resources and capabilities makes adding the focus of apartment dwellers and landlords much more cost-effectively than if the program did not have access to those existing resources.

(11) This program was developed to overcome the major barriers preventing current apartment tenants from participating in the existing Power Manager[®] program. The largest barrier was that current “customers” are tenants and require permission from the

landlord to have equipment installed on the landlord's appliances. In the existing Power Manager[®] program, there were no monetary benefits to participating in the program for the landlord. Splitting the participation and installation incentives between the landlord and tenant was seen as necessary to overcome this issue. In addition, marketing the program to landlords should be more cost-effective from both a customer-acquisition as well installation cost perspective.

(12) This program was developed based on the several years of experience with the existing Power Manager[®] program. While apartments are smaller in size and have fewer occupants—which results in lower potential for peak demand savings, they also provide opportunities for efficiencies in installation and marketing costs. In addition, the current vendors working with Power Manager have experience with apartment-focused program in other jurisdictions and were able to help Duke Energy Ohio find a program design that both leveraged the existing program capabilities and overcome barriers for this segment.

(13) The Company believes promoting investment in peak demand reduction measures and customer engagement will advance the adoption of demand response measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

Power Manager[®] For Business

(1) Cost Effectiveness

	Utility Test	TRC Test	RIM Test	Participant Test
	3.07	4.84	3.02	Not Applicable

(2) The program pays incentives to participants without any charges to customers—so both participants benefit from the program. Since this Demand Response program passes the RIM test (see “1” above) the program benefits are greater than program costs, and thus lowers overall electric rates for non-participating customers in the non-residential class.

(3) This program offering broadens the availability of a demand response program to those in a small or medium size commercial establishment. The existing PowerShare[®] program has a minimum size requirement of providing 100 kW of curtailable load. It is estimated that there are almost 60,000 eligible customers for this program. Duke Energy Ohio has used a fairly conservative customer adoption rate of just over 5% cumulative participation of the eligible market through six years for the program.

(4) Regarding the basis for the load impacts, program managers and analysts produce the impact estimates using industry information from a variety of sources, including but not limited to, Morgan Marketing Partners, CleaResult, and/or other utility program information and evaluations. Over time, as impact and process evaluations are performed on this program, information and input specifically related to this program will be used within future cost-effectiveness analyses. Based on the projected participation, the forecasted peak demand reduction associated with the Power Manager[®] for Business program are summarized in the table below:

	2017	2018	2019
kW	270	3,183	7,332
kWh	62,631	739,414	1,705,046
Participants	138	1,625	3,745

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

The EM&V plans for each program are provided in Exhibit TAH1.

(5) Customers may receive a Wi-Fi-enabled thermostat that they may access via a mobile or computer application. This provides the ability to remotely manage temperature conditions in an improved manner for many small business customers.

(6) Given the nature of the program, the Power Manager[®] for Business program is solely targeted at non-residential customers. Other demand response offers are included in this application for business customers. The intention is that this program will help improve the opportunity for this segment of the non-residential customer group to participate in demand response programs.

(7) The Power Manager[®] for Business program will primarily benefit retrofitting existing capital stock—the existing base of businesses in the Duke Energy Ohio service area. There is also the potential for participation for new business built in the service area to participate.

(8) Duke Energy Ohio sees synergistic opportunities with the Small Business Energy Efficiency program, as both efforts address the same market—smaller business customers who care about achieving savings through reduction in their electric bill.

(9) Currently the program only involves control of central cooling equipment, but in the future it may provide the basis to cost effectively control water heating, lighting or other applications. At this time, those measures are not pursued due to uncertainty in their cost-effectiveness. Duke Energy Ohio will continue to monitor the situation as conditions change over time.

(10) This program leverages equipment, installation and software vendors already used in Duke Energy's operating companies in the Carolinas as well as Duke Energy Ohio. This

enables some of the IT related investment to be spread across multiple jurisdictions and improve the cost-effectiveness of this program.

(11) This program provides savings to customers for no investment on their part. The intention is to leverage activity from the Small Business Energy Saver program that will provide efficiencies in marketing and build upon the trust developed from the EE program implementation.

(12) This program was developed based on the several years of experience with the existing Power Manager[®] and PowerShare[®] programs in Duke Energy Ohio. In addition, a program called “EnergyWise for Business” was introduced into Duke Energy’s service areas in the Carolinas during 2016. This program is substantially the same as the proposed Power Manager for Business program.

(13) The Company believes promoting investment in peak demand reduction measures and customer engagement will advance the adoption of energy efficient demand response measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.

Other Programs:

Prior Program Name	New Program Name	Program Description
Mercantile Self-Direct	Mercantile Self-Direct	Captures energy efficiency and peak demand reduction projects committed to the Company by Mercantile customers as provided for by O.R.C. 4928.01 and 4928.66
NA	T&D Improvements	Capture savings achieved through various T&D projects that reduce line losses.
NA	Smart Grid	Smart grid investment programs, provided that such programs are demonstrated to be cost-beneficial

The Duke Energy Ohio Self-Direct program was proposed in accordance with PUCO Rule 4901:1-39-05(G). O.A.C., and the Commission's Order in Case No.10-834-EL-POR. Mercantile and national/regional accounts customers with aggregate annual usage of 700,000 kWh or greater are eligible for the program. The Program became a permanent Ohio program on July 17, 2013. Duke Energy Ohio will continue to support the program and claim impacts towards meeting its energy efficiency benchmarks.

In accordance with Sec. 4928.662, the Commission shall count energy efficiency savings and peak demand reductions associated with transmission and distribution infrastructure improvements that reduce line losses. No energy efficiency or peak demand reduction achieved under division (E) of this section shall qualify for shared savings. Duke Energy Ohio will include impacts achieved towards meeting its energy efficiency benchmarks. Smart grid means capital improvements to an electric distribution utility's distribution infrastructure that improve reliability, efficiency, resiliency, or reduce energy demand or use, including, but not limited to, advanced metering and automation of system functions.

A utility is permitted to use Smart Grid investment programs, provided that such programs are demonstrated to be cost-beneficial towards compliance. Duke Energy Ohio will include impacts achieved from Smart Grid programs towards meeting its energy efficiency benchmarks.

Baselines: Sec. 4928.66.(a) states the baseline is the average of the total kilowatt hours the electric distribution utility sold in the preceding three calendar years. The baseline for a peak demand reduction under division (A)(1)(b) of this section 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. Neither baseline shall include the load and usage of any of the following customers:

(i) Beginning January 1, 2017, a customer for which a reasonable arrangement has been approved under section 4905.31 of the Revised Code;

(ii) A customer that has opted out of the utility's portfolio plan under section 4928.6611 of the Revised Code;

(iii) A customer that has opted out of the utility's portfolio plan under Section 8 of S.B. 310 of the 130th general assembly.

The baseline also shall be normalized for changes in numbers of customers, sales, weather, peak demand, and other appropriate factors so that the compliance measurement is not unduly influenced by factors outside the control of the electric distribution utility.

S.B. 310 Percentage EE/PDR Benchmarks:

Table 2 provides the cumulative percentage EE/PDR Benchmarks

Table 2:¹⁴

Year	Energy Consumption MWh	Peak Demand MW
2017	6.20%	7.00%
2018	7.20%	7.75%
2019	9.20%	9.25%

¹⁴ As defined in Sec. 4928.66

Table 3 provides the Duke Energy Ohio S.B. 310 EE and PDR Reduction Requirements

Table 3:¹⁵

Year	Energy Efficiency Benchmarks Percentage	Cumulative Required Energy Efficiency Savings MWh	Peak Demand Reduction Benchmarks Percentage	Cumulative Required Peak Demand Reductions MW
2017	6.20%	1,489,662	7.00%	303.7
2018	7.20%	1,692,875	7.75%	334.6
2019	9.20%	2,100,064	9.25%	396.2

COST RECOVERY: Duke Energy Ohio proposes to recover the costs and lost revenues incurred to deliver energy efficiency and peak demand reduction and the ability to earn an incentive, based upon its ability to exceed its efficiency savings targets that are required of all electric distribution customers by Ohio law. In the case that Duke Energy Ohio reaches the required level of energy savings, it shall be eligible to retain a percentage of the after-tax net system benefits (avoided costs less the costs of delivering the efficiency) as an incentive. The Company's after-tax shared savings incentive shall entitle it to 10% of the after-tax net benefit, which means that 90% of the benefit achieved will be retained by Duke Energy Ohio's customers.

The incentive that the Company is eligible to earn 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, excluding any impacts from the Self-Direct Mercantile Program, as well as the benefits realized through smart grid and transmission and distribution investments.

¹⁵ Table 3 is based on the 2016 Long-Term Forecast Report in Case No. 16-588-EL-FOR

The proposed 10% after-tax shared savings mechanism proposed by the Company is consistent with other incentive mechanisms that have been approved by the Commission.

Waiver Request:

Rule 4901:1-39-05(C), Ohio Administrative Code, requires electric utilities to submit their compliance filings by March 15th. Duke Energy Ohio respectfully requests that its annual compliance filing, as well as, its annual energy efficiency rider true-up be submitted by May 15th annually through program year 2019. Extending the date will allow additional time for data collection, the receipt of EM&V results and analysis, as well as align the rider with the compliance filing.

Conclusion:

THEREFORE, consistent with the information provided above as supported by the Company witnesses in testimony included with this Application, Duke Energy Ohio respectfully requests that the Commission approve the cost recovery mechanism proposed, along with the new energy efficiency and peak demand reduction programs for inclusion within its existing portfolio.

Respectfully submitted,

Duke Energy Ohio, Inc.



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Measure Name	Target Annual kWh Savings	Target Annual NonCoincident kW	Target Annual Coincident kW	Target Annual Summer Coincident kW	Measure Life	Technology	Product Code	Unit of Measure	Customer Type	Source Type	Source Author
Energy Education Program for Schools	499.00	9999.00	0.13	0.13		7 Energy Education Program for Schools	K12PRF	per participant	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - ACR Insulation SC Only_EH per home	203.77	9999.00	9999.00	9999.00		25 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - ACR Insulation SC Only_NonEH per home	203.77	9999.00	9999.00	9999.00		25 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - ACR Insulation SH Only_EH per home	1018.87	9999.00	9999.00	9999.00		25 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Air Sealing SC Only_EH per home	61.61	9999.00	9999.00	9999.00		15 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Air Sealing SC Only_NonEH per home	61.61	9999.00	9999.00	9999.00		15 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Air Sealing SH Only_EH per home	842.04	9999.00	9999.00	9999.00		15 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - CFL_EH	35.25	0.00	0.01	0.00		5 Weatherization - Pay Per KWH	WTZKWH	Per CFL	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - CFL_NonEH	51.36	0.01	0.01	0.01		5 Weatherization - Pay Per KWH	WTZKWH	Per CFL	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Energy Efficient Shower Head_EH	161.73	9999.00	9999.00	9999.00		5 Weatherization - Pay Per KWH	WTZKWH	Per Showerhead	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Energy Efficient Shower Head_NonEH	161.73	9999.00	9999.00	9999.00		5 Weatherization - Pay Per KWH	WTZKWH	Per Showerhead	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Faucet Aerator_EH	18.74	9999.00	9999.00	9999.00		5 Weatherization - Pay Per KWH	WTZKWH	Per Aerator	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Faucet Aerator_NonEH	18.74	9999.00	9999.00	9999.00		5 Weatherization - Pay Per KWH	WTZKWH	Per Aerator	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Floor Insulation SH Only_EH per home	503.45	9999.00	9999.00	9999.00		25 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Foundation Insulation SH Only_EH per home	1731.66	9999.00	9999.00	9999.00		25 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Refrigerator Replacement_EH	838.62	0.10	0.10	0.10		8 Weatherization - Pay Per KWH	WTZKWH	Per Refrigerator	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Refrigerator Replacement_NonEH	1276.55	0.15	0.15	0.15		8 Weatherization - Pay Per KWH	WTZKWH	Per Refrigerator	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Wall Insulation SC Only_EH per home	223.75	9999.00	9999.00	9999.00		25 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Wall Insulation SC Only_NonEH per home	223.75	9999.00	9999.00	9999.00		25 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Wall Insulation SH Only_EH per home	1200.13	9999.00	9999.00	9999.00		25 Weatherization - Pay Per KWH	WTZKWH	per home	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Water Heater Pipe Insulation_EH	235.67	9999.00	9999.00	9999.00		10 Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Water Heater Pipe Insulation_NonEH	235.67	9999.00	9999.00	9999.00		10 Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Water Heater Replacement Electric_EH	124.48	9999.00	9999.00	9999.00		13 Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Water Heater Replacement Electric_NonEH	124.48	9999.00	9999.00	9999.00		13 Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Water Heater Tank Wrap_EH	193.74	9999.00	9999.00	9999.00		5 Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
WTZKWH - Water Heater Tank Wrap_NonEH	193.74	9999.00	9999.00	9999.00		5 Weatherization - Pay Per KWH	WTZKWH	Per Water Heater	Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
My Home Energy Report - Online	286.10	9999.00	9999.00	9999.00		1 My Home Energy Report	HECR	per participant	Residential	Original Estimates (Based on EM&V evaluation report)	Duke Energy
Home Energy House Call - Additional LED	27.00	9999.00	9999.00	9999.00		12 Residential Energy Assessments	HEHC	per bulb	Residential	Original Estimates (Based on EM&V evaluation report)	Duke Energy
Home Energy House Call - Kit (LEDs)	460.83	9999.00	0.06	9999.00		14 Residential Energy Assessments	HEHC	per house	Residential	Original Estimates (Based on EM&V evaluation report)	Duke Energy
LED - Retail Fixture	36.72	9999.00	9999.00	9999.00		12 Smart Saver® Residential	RTLLED	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
LED - Retail Reflector Outdoor	118.30	9999.00	9999.00	9999.00		12 Smart Saver® Residential	RTLLED	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
LED - Retail Reflector Track Lighting	22.78	9999.00	9999.00	9999.00		12 Smart Saver® Residential	RTLLED	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
LED - Retail Specialty 3 Way	43.96	9999.00	9999.00	9999.00		12 Smart Saver® Residential	RTLLED	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
LED - Retail Specialty Decorative Candelabra	18.06	9999.00	9999.00	9999.00		12 Smart Saver® Residential	RTLLED	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
LED - Retail Specialty Globe	17.61	9999.00	9999.00	9999.00		12 Smart Saver® Residential	RTLLED	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
Multifamily MyHER	111.00	9999.00	9999.00	9999.00		1 My Home Energy Report	HECR	per participant	Residential	Original Estimates (Based on EM&V evaluation report)	Duke Energy
Multifamily MyHER Interactive	124.00	9999.00	9999.00	9999.00		1 My Home Energy Report	HECR	per participant	Residential	Original Estimates (Based on EM&V evaluation report)	Duke Energy
Power Manager for Apartments			1.00			15 Power Manager® for Apartments	PMAPT	per Summer Peak kW	Residential	Original Estimates (Based on EM&V evaluation report)	Duke Energy
Power Manager for Water Heaters			0.33	1.00		15 Power Manager®	PMWH	per Winter Peak kW	Residential	Original Estimates (Based on PJM estimates)	Duke Energy
Power Manager Water Heaters for Apartments			0.40	1.00		15 Power Manager® for Apartments	PMAPWH	per Winter Peak kW	Residential	Original Estimates (Based on PJM estimates)	Duke Energy
PowerManager			1.00			15 Power Manager®	PWMGR	per kW net of line losses	Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
RCFLSP - Specialty Bulbs 3 Way LED	43.96					12 Smart Saver® Residential	RCFLSP	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
RCFLSP - Specialty Bulbs Candelabra LED	18.06	0.02	0.00	0.00		12 Smart Saver® Residential	RCFLSP	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
RCFLSP - Specialty Bulbs Globe LED	17.61					12 Smart Saver® Residential	RCFLSP	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
RCFLSP - Specialty Bulbs Recessed Outdoor LED	118.30	0.07	0.00	0.00		12 Smart Saver® Residential	RCFLSP	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
RLED - Free LED Phase 1	28.69	0.04	0.00	0.00		12 Smart Saver® Residential	RLED	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
RLED - Free LED Phase 2	7.83	0.01	0.00	0.00		12 Smart Saver® Residential	RLED	per bulb	Residential	Original Estimates (Based on Ohio TRM and KEMA-XENERGY CFL Metering Study)	Duke Energy
Faucet Aerators SF DIY 1.0 GPM - bath	96.00	0.01	0.01	9999.00		10 Smart Saver® Residential	SFEAAR	per aerator	Residential	Engineering Estimates	Morgan Marketing Partners
Faucet Aerators SF DIY 1.0 GPM - kitchen	79.00	0.01	0.01	9999.00		10 Smart Saver® Residential	SFEAAR	per aerator	Residential	Engineering Estimates	Morgan Marketing Partners
LF Showerhead SF DIY 1.5 GPM	171.00	0.02	0.01	9999.00		10 Smart Saver® Residential	SFEESH	per showerhead	Residential	Engineering Estimates	Morgan Marketing Partners
Pipe Wrap SF DIY	46.00	0.01	0.00	9999.00		13 Smart Saver® Residential	SFEFPW	per linear foot	Residential	Engineering Estimates	Morgan Marketing Partners
Smart Saver - Attic Insul & Air Sealing - Non-Referrd	1162.00	9999.00	9999.00	9999.00		20 Smart Saver® Residential	SSAISN	per HVAC	Residential	Engineering Estimates	Morgan Marketing Partners
Smart Saver - Attic Insul & Air Sealing - Referred	1162.00	9999.00	9999.00	9999.00		20 Smart Saver® Residential	SSAISR	per HVAC	Residential	Engineering Estimates	Morgan Marketing Partners
Smart Saver - Duct Insulation - Non-Referrd	876.00	9999.00	9999.00	9999.00		20 Smart Saver® Residential	SSDINN	per HVAC	Residential	Engineering Estimates	Morgan Marketing Partners
Smart Saver - Duct Insulation - Referred	876.00	9999.00	9999.00	9999.00		20 Smart Saver® Residential	SSDINR	per HVAC	Residential	Engineering Estimates	Morgan Marketing Partners
Smart Saver - Duct Sealing - Non-Referrd	410.00	9999.00	9999.00	9999.00		18 Smart Saver® Residential	SSDSEN	per HVAC	Residential	Engineering Estimates	Morgan Marketing Partners
Smart Saver - Duct Sealing - Referred	410.00	9999.00	9999.00	9999.00		18 Smart Saver® Residential	SSDSESR	per HVAC	Residential	Engineering Estimates	Morgan Marketing Partners
Heat Pump Water Heater	1763.00	0.20	0.14	9999.00		10 Smart Saver® Residential	HPWH	per Heat Pump Water Heater	Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Faucet Aerators MF Direct 1.0 GPM - bath	58.75	0.16	0.01	0.01		10 Smart Saver® Residential	MFEAAR	per aerator	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
Faucet Aerators MF Direct 1.0 GPM - kitchen	116.81	0.32	0.02	0.02		10 Smart Saver® Residential	MFEAAR	per aerator	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
Faucet Aerators MF DIY 1.0 GPM - bath	44.68	0.12	0.01	0.01		10 Smart Saver® Residential	MFEAAR	per aerator	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
Faucet Aerators MF DIY 1.0 GPM - kitchen	90.34	0.25	0.01	0.02		10 Smart Saver® Residential	MFEAAR	per aerator	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
LF Showerhead MF Direct 1.5 GPM	339.05	0.93	0.03	0.04		10 Smart Saver® Residential	MFEESH	per showerhead	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
LF Showerhead MF DIY 1.5 GPM	259.75	0.71	0.02	0.03		10 Smart Saver® Residential	MFEESH	per showerhead	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
Pipe Wrap MF Direct	51.48	9999.00	0.01	0.01		13 Smart Saver® Residential	MFEFPW	per linear foot	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
Pipe Wrap MF Diy	46.50	9999.00	0.01	0.01		13 Smart Saver® Residential	MFEFPW	per linear foot	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
Property Manager 13WCFL	44.94	0.05	0.01	0.01		5 Smart Saver® Residential	RCFLPM	per 13W cfl bulb	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
My Home Energy Report	255.79	9999.00	9999.00	9999.00		1 My Home Energy Report	HECR	per participant	Residential	Duke Energy Ohio EM&V Evaluation	Navigant
Quality Installation - Non-Referrd	214.95	9999.00	0.06	0.02		10 Smart Saver® Residential	SSQINR	per installation	Residential	Engineering Estimates	Navigant
Quality Installation - Referred	214.95	9999.00	0.06	0.02		10 Smart Saver® Residential	SSQIR	per installation	Residential	Engineering Estimates	Navigant
Smart Saver - Central Air Conditioner Tier 1 - Non-Referrd	412.62	9999.00	0.21	0.04		13 Smart Saver® Residential	SSAC1N	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Central Air Conditioner Tier 1 - Referred	412.62	9999.00	0.21	0.04		13 Smart Saver® Residential	SSAC1R	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Central Air Conditioner Tier 2 - Non-Referrd	344.66	9999.00	0.20	0.03		15 Smart Saver® Residential	SSAC2N	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Central Air Conditioner Tier 2 - Referred	344.66	9999.00	0.20	0.03		15 Smart Saver® Residential	SSAC2R	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Central Air Conditioner Tier 3 - Non-Referrd	450.06	9999.00	0.26	0.04		15 Smart Saver® Residential	SSAC3N	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Central Air Conditioner Tier 3 - Referred	450.06	9999.00	0.26	0.04		15 Smart Saver® Residential	SSAC3R	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Heat Pump Tier 1 - Non-Referrd	776.48	9999.00	0.12	0.15		12 Smart Saver® Residential	SSHP1R	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Heat Pump Tier 1 - Referred	776.48	9999.00	0.12	0.15		12 Smart Saver® Residential	SSHP1R	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Heat Pump Tier 2 - Non-Referrd	512.06	9999.00	0.08	0.13		15 Smart Saver® Residential	SSHP2N	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Heat Pump Tier 2 - Referred	512.06	9999.00	0.08	0.13		15 Smart Saver® Residential	SSHP2R	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Heat Pump Tier 3 - Non-Referrd	436.78	9999.00	0.12	0.11		15 Smart Saver® Residential	SSHP3N	per HVAC	Residential	Engineering Estimates	Navigant
Smart Saver - Heat Pump Tier 3 - Referred	436.78	9999.00	0.12	0.11		15 Smart Saver® Residential	SSHP3R	per HVAC	Residential	Engineering Estimates	Navigant
Smart Thermostat - Non-Referrd	493.23	9999.00	0.00	0.00		11 Smart Saver® Residential	SSSTN	per Thermostat	Residential	Engineering Estimates	Navigant
Smart Thermostat - Referred	493.23	9999.00	0.00	0.00		11 Smart Saver® Residential	SSSTR	per Thermostat	Residential	Engineering Estimates	Navigant
Low Income Neighborhood	418.00	0.14	0.13	9999.00		8 Low Income Neighborhood	WELU	per participant	Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
LED - Retail General Purpose A Line	24.50	9999.00	9999.00	9999.00		12 Smart Saver® Residential	RTLLED	per bulb	Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
LED - Retail Reflector Recessed	43.40	9999.00	9999.00	9999.00		12 Smart Saver® Residential	RTLLED	per bulb	Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
RCFLSP - Specialty Bulbs A Line LED	24.50	0.03	0.00	0.00		12 Smart Saver® Residential	RCFLSP	per bulb	Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
RCFLSP - Specialty Bulbs Recessed LED	43.40	0.04	0.00	0.00		12 Smart Saver® Residential	RCFLSP	per bulb	Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
Pool Pump	1580.00	0.49	0.59	0.00		10 Smart Saver® Residential	PEEPVS	per pool	Residential	Engineering Estimates	VEIC
ECM Case Motors	333.54	0.04	0.04	9999.00		15 Food Service Products	NRF5	per motor	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Exterior HID replacement above 175W to 250W HID retrofit	791.00	0.19	0.00	0.00		12 Lighting	NRLTG	per fixture	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus

Exterior HID replacement above 250W to 400W HID retrofit	1425.00	0.34	0.00	0.00	12 Lighting	NRLTG	per fixture	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Exterior HID replacement above 400W HID retrofit	2193.00	0.48	0.00	0.00	12 Lighting	NRLTG	per fixture	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Exterior HID replacement to 175W HID retrofit	588.00	0.14	0.00	0.00	12 Lighting	NRLTG	per fixture	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Garage HID replacement above 175W to 250W HID retrofit	1578.00	0.19	0.19	0.19	6 Lighting	NRLTG	per fixture	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Garage HID replacement above 250W to 400W HID retrofit	2755.00	0.36	0.36	0.36	6 Lighting	NRLTG	per fixture	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Garage HID replacement above 400W HID retrofit	6065.00	0.69	0.69	0.69	6 Lighting	NRLTG	per fixture	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Garage HID replacement to 175W HID retrofit	916.00	0.11	0.11	0.11	6 Lighting	NRLTG	per fixture	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Guest Room Energy Management, Electric Heating	669.48	0.19	0.14	0.14	8 HVAC	NRHVAC	per unit	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
High Efficiency Pumps 1.5HP	221.67	0.08	0.00	0.00	15 Pumps and Drives	NRP&M	per pump	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
High Efficiency Pumps 1.5HP	3283.93	0.82	0.64	0.00	15 Pumps and Drives	NRP&M	per pump	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
High Efficiency Pumps 20HP	4378.57	1.09	0.85	0.00	15 Pumps and Drives	NRP&M	per pump	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
High Efficiency Pumps 50HP	957.81	0.27	0.21	0.00	15 Pumps and Drives	NRP&M	per pump	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
High Efficiency Pumps 7.5HP	960.55	0.41	0.00	0.00	15 Pumps and Drives	NRP&M	per pump	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
LED Downlight	264.00	0.08	0.06	0.00	15 Lighting	NRLTG	per lamp	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
LED Lamps	288.00	0.07	0.05	0.05	8 Lighting	NRLTG	per lamp	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
VSD Air Compressors	561.14	0.11	0.10	0.10	15 Process Equipment	NRPROC	per HP	Non-Residential	Duke Energy Ohio EM&V Evaluation	Cadmus
Air Cooled Chiller_Any greater than 150 tons	70.31	9999.00	0.09	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Air Cooled Chiller_Any less than 150 tons	71.72	9999.00	0.09	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Combination Oven_10 pan	6501.92	1.48	1.20	1.04	12 Food Service Products	NRFS	per oven	Non-Residential	Engineering Estimates	ClearResults
Combination Oven_20 pan	12391.13	2.83	2.29	1.98	12 Food Service Products	NRFS	per oven	Non-Residential	Engineering Estimates	ClearResults
Controlled Plug Strip	100.00	0.01	0.00	0.00	4 Information Technology	NRIT	per power strip	Non-Residential	Engineering Estimates	ClearResults
Convection Oven_Full-Sized	2083.14	0.48	0.39	0.33	12 Food Service Products	NRFS	per oven	Non-Residential	Engineering Estimates	ClearResults
ECM for HVAC fan_1 HP	2895.00	0.66	0.66	0.67	15 HVAC	NRHVAC	per motor	Non-Residential	Engineering Estimates	ClearResults
ECM for HVAC fan_3 qrtr HP	2171.25	0.50	0.50	0.51	15 HVAC	NRHVAC	per motor	Non-Residential	Engineering Estimates	ClearResults
ECM for HVAC fan_half HP	1447.50	0.33	0.33	0.34	15 HVAC	NRHVAC	per motor	Non-Residential	Engineering Estimates	ClearResults
ECM for HVAC fan_qrtr HP	723.75	0.17	0.17	0.17	15 HVAC	NRHVAC	per motor	Non-Residential	Engineering Estimates	ClearResults
ECM for HVAC fan_third HP	955.35	0.22	0.22	0.22	15 HVAC	NRHVAC	per motor	Non-Residential	Engineering Estimates	ClearResults
Fryer (Large Vat)	2659.00	0.61	0.49	0.42	12 Food Service Products	NRFS	per fryer	Non-Residential	Engineering Estimates	ClearResults
Fryer (Standard Vat)	1057.00	0.24	0.20	0.17	12 Food Service Products	NRFS	per fryer	Non-Residential	Engineering Estimates	ClearResults
HT ES Multi-Tank - CNV DW New -rplc on Burnout	30412.00	4.63	3.75	3.24	20 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES Multi-Tank - CNV DW w-Boost Htr (Elec) New -repl on BO	30412.00	4.63	3.75	3.24	20 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES Multi-Tank - CNV DW w-Boost Htr (Gas) New -repl on BO	21168.00	3.22	2.61	2.26	20 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES PotPan/UTl DW (Elec) New -replc on Burnout	3702.00	0.56	0.46	0.39	10 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES PotPan/UTl DW (Gas) New -replc on Burnout	2498.00	0.38	0.31	0.27	10 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES PotPan/UTl DW New -replc on Burnout	3702.00	0.56	0.46	0.39	10 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES Sngl Tank - CNV DW New -rplc on Burnout	10003.00	1.52	1.23	1.07	20 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES Sngl Tank - CNV DW w-Boost Htr (Elec) New -repl on BO	10003.00	1.52	1.23	1.07	20 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES Sngl Tank - CNV DW w-Boost Htr (Gas) New -repl on BO	7567.00	1.15	0.93	0.81	20 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES Sngl Tank - Door DW New -repl on Burnout	13167.00	2.00	1.62	1.40	15 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES Sngl Tank - Door DW w-Boost Htr (Elec) New -repl on BO	13167.00	2.00	1.62	1.40	15 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES Sngl Tank - Door DW w-Boost Htr (Gas) New -repl on BO	9154.00	1.39	1.13	0.98	15 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES UC DW New -replc on Burnout	3371.55	0.51	0.42	0.36	10 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES UC DW w-Boost Htr (Elec) New -repl on BO	3372.00	0.51	0.42	0.36	10 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
HT ES UC DW w-Boost Htr (Gas) New -repl on BO	2753.00	0.42	0.34	0.29	10 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
Icemaker (100 to 500 lbs_ day)	564.45	0.06	0.06	0.06	10 Food Service Products	NRFS	per ice maker	Non-Residential	Engineering Estimates	ClearResults
Icemaker (501 to 1000 lbs_ day)	1129.33	0.13	0.13	0.13	10 Food Service Products	NRFS	per ice maker	Non-Residential	Engineering Estimates	ClearResults
Icemaker (Greater Than 1000 lbs_ day)	3541.25	0.40	0.40	0.40	10 Food Service Products	NRFS	per ice maker	Non-Residential	Engineering Estimates	ClearResults
LED 2R Tube 1-LED, replacing or in lieu of T8 fluorescent	32.22	0.01	0.01	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 2R Tube 2-LED, replacing or in lieu of T8 fluorescent	52.36	0.01	0.01	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 2R Tube 3-LED, replacing or in lieu of T8 fluorescent	68.47	0.02	0.01	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 2R Tube 4-LED, replacing or in lieu of T8 fluorescent	76.53	0.02	0.02	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 4Rt Case Lights, T8 to LED	86.51	0.02	0.02	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 4Rt Case Lights, T8 to LED - With Controls	115.65	0.02	0.02	0.00	15 Lighting	NRLTG	per fixture_w_control	Non-Residential	Engineering Estimates	ClearResults
LED 4Rt Tube 1-LED, replacing or in lieu of T8 fluorescent	48.33	0.01	0.01	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 4Rt Tube 2-LED, replacing or in lieu of T8 fluorescent	80.55	0.02	0.02	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 4Rt Tube 3-LED, replacing or in lieu of T8 fluorescent	112.78	0.03	0.02	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 4Rt Tube 4-LED, replacing or in lieu of T8 fluorescent	145.00	0.04	0.03	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 5Rt Case Lights, T8 to LED	109.27	0.02	0.02	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED 5Rt Case Lights, T8 to LED - With Controls	142.05	0.03	0.02	0.00	15 Lighting	NRLTG	per fixture_w_control	Non-Residential	Engineering Estimates	ClearResults
LED Canopy replacing 176-250W HID	666.08	0.12	0.00	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Canopy replacing 251-400W HID	972.32	0.18	0.00	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Canopy replacing up to 175W HID	420.48	0.08	0.00	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Display Case (pnlcng or ILO INCD or FL display case Ltng)	74.04	0.02	0.02	0.00	15 Lighting	NRLTG	per ft	Non-Residential	Engineering Estimates	ClearResults
LED FLD rplcng or ILO GRT 100W HAL, INCD, or HID	519.63	0.14	0.00	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED FLD rplcng or ILO up to 100W HAL, INCD, or HID	152.92	0.04	0.00	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Highbay replacing 251-400W HID	1036.16	0.26	0.21	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Highbay replacing greater than 400W HID	1903.64	0.48	0.39	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Lowbay replacing 176W-250W HID	739.01	0.18	0.15	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Lowbay replacing up to 175W HID	466.12	0.12	0.09	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Panel 1x4 replacing or in lieu of T8 FL	80.18	0.02	0.02	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Panel 2x2 replacing or in lieu of T8 FL	92.44	0.01	0.01	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Panel 2x4 replacing or in lieu of T8 FL	186.58	0.05	0.04	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Portable Task Lights (pnlcng or ILO INCD, HAL, or CFL task Ltng)	93.82	0.03	0.02	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
LED Shelf-mounted Task Lights (pnlcng or ILO FL task Ltng)	19.39	0.01	0.00	0.00	15 Lighting	NRLTG	per ft	Non-Residential	Engineering Estimates	ClearResults
LED Track Ltng (pnlcng or ILO INCD, HAL, CFL, or HID track Ltng)	197.59	0.05	0.04	0.00	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
Low-Temp ES Multi-Tank - CNV DW New -repl on BO	22305.00	3.39	2.75	2.38	20 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
Low-Temp ES UC DW New -repl on Burnout	3011.00	0.46	0.37	0.32	10 Food Service Products	NRFS	per dishwasher	Non-Residential	Engineering Estimates	ClearResults
PC Power Management from Network	200.00	0.02	0.02	0.00	5 Information Technology	NRIT	per computer and monitor controlled	Non-Residential	Engineering Estimates	ClearResults
Water Cooled Chiller_Centrifugal at least 150 tons and less than 300 tons	29.88	9999.00	0.04	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Water Cooled Chiller_Centrifugal at least 300 tons and less than 600 tons	29.88	9999.00	0.04	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Water Cooled Chiller_Centrifugal at least 600 tons	29.88	9999.00	0.04	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Water Cooled Chiller_Centrifugal less than 150 tons	33.62	9999.00	0.05	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Water Cooled Screw or Scroll at least 150 tons and less than 300 tons	40.34	9999.00	0.05	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Water Cooled Screw or Scroll at least 300 tons	36.61	9999.00	0.05	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Water Cooled Screw or Scroll at least 75 tons and less than 150 tons	43.78	9999.00	0.06	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Water Cooled Screw or Scroll less than 75 tons	44.83	9999.00	0.06	0.00	20 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Zero Energy Doors_High-Temp Cooler	1319.69	0.15	0.15	0.15	10 Food Service Products	NRFS	per door	Non-Residential	Engineering Estimates	ClearResults
Zero Energy Doors_Med-Temp Cooler	1400.02	0.16	0.16	0.16	10 Food Service Products	NRFS	per door	Non-Residential	Engineering Estimates	ClearResults
ARC 10 to 15 Ton Gas Heat	649.89	9999.00	0.17	0.17	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
ARC greater than 15 Ton Gas Heat	803.61	9999.00	0.20	0.21	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
ARC HP 10 to 15 Ton	774.78	9999.00	0.17	0.28	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
ARC HP greater than 15 Ton	937.13	9999.00	0.20	0.31	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
ARC HP less than 10 Ton	694.34	9999.00	0.15	0.29	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
ARC less than 10 Ton Gas Heat	563.80	9999.00	0.15	0.14	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up,_AC, Fixed Orifice,_ +10% chg adj	88.94	9999.00	0.10	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults

DX RTU Tune-up_AC_Fixed Orifice_+15% chg adj	141.26	9999.00	0.15	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_Fixed Orifice_+20% chg adj	200.11	9999.00	0.22	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_Fixed Orifice_+25% chg adj	326.94	9999.00	0.36	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_Fixed Orifice_+30% chg adj	470.11	9999.00	0.51	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_Fixed Orifice_+5% chg adj	42.13	9999.00	0.05	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_Fixed Orifice_-20% chg adj	24.76	9999.00	0.03	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_TXV_+10% chg adj	42.13	9999.00	0.05	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_TXV_+15% chg adj	51.09	9999.00	0.06	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_TXV_+20% chg adj	60.25	9999.00	0.07	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_TXV_+25% chg adj	79.17	9999.00	0.09	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_TXV_+30% chg adj	109.15	9999.00	0.12	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_TXV_+5% chg adj	24.76	9999.00	0.03	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_AC_TXV_-20% chg adj	33.35	9999.00	0.04	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_Fixed Orifice_+10% chg adj	383.67	9999.00	0.10	0.10	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_Fixed Orifice_+15% chg adj	609.36	9999.00	0.15	0.16	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_Fixed Orifice_+20% chg adj	863.26	9999.00	0.22	0.22	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_Fixed Orifice_+25% chg adj	1410.39	9999.00	0.36	0.36	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_Fixed Orifice_+30% chg adj	2027.96	9999.00	0.51	0.52	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_Fixed Orifice_+5% chg adj	181.74	9999.00	0.05	0.05	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_Fixed Orifice_-20% chg adj	106.79	9999.00	0.03	0.03	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_TXV_+10% chg adj	181.74	9999.00	0.05	0.05	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_TXV_+15% chg adj	220.41	9999.00	0.06	0.06	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_TXV_+20% chg adj	259.90	9999.00	0.07	0.07	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_TXV_+25% chg adj	341.51	9999.00	0.09	0.09	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_TXV_+30% chg adj	470.87	9999.00	0.12	0.12	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_TXV_+5% chg adj	106.79	9999.00	0.03	0.03	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
DX RTU Tune-up_HP_TXV_-20% chg adj	143.88	9999.00	0.04	0.04	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
EC Plug Fan_20 HP	65076.65	7.43	0.00	0.00	10 Information Technology	NRIT	per 20HP Fan	Non-Residential	Engineering Estimates	ClearResults
EC Plug Fan_3 HP	10143.23	1.16	0.00	0.00	10 Information Technology	NRIT	per 3HP Fan	Non-Residential	Engineering Estimates	ClearResults
EC Plug Fan_5 HP	16905.39	1.93	0.00	0.00	10 Information Technology	NRIT	per 5HP Fan	Non-Residential	Engineering Estimates	ClearResults
EC Plug Fan_10 HP	32999.61	3.77	0.00	0.00	10 Information Technology	NRIT	per 10HP Fan	Non-Residential	Engineering Estimates	ClearResults
EC Plug Fan_15 HP	48807.49	5.57	0.00	0.00	10 Information Technology	NRIT	per 15HP Fan	Non-Residential	Engineering Estimates	ClearResults
EC Plug Fan_2 HP	6996.68	0.80	0.00	0.00	10 Information Technology	NRIT	per 2HP Fan	Non-Residential	Engineering Estimates	ClearResults
EC Plug Fan_7.5 HP	24940.09	2.85	0.00	0.00	10 Information Technology	NRIT	per 7.5HP Fan	Non-Residential	Engineering Estimates	ClearResults
FHAC_No Variable Speed_1975-1985	623.08	9999.00	0.09	0.09	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHAC_No Variable Speed_1985-1996	471.58	9999.00	0.07	0.07	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHAC_No Variable Speed_1996-2003	300.89	9999.00	0.04	0.04	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHAC_No Variable Speed_less than 1975	620.59	9999.00	0.09	0.09	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHAC_Variable Speed_1975-1985	890.55	9999.00	0.12	0.12	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHAC_Variable Speed_1985-1996	890.55	9999.00	0.12	0.12	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHAC_Variable Speed_1996-2003	890.55	9999.00	0.12	0.12	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHAC_Variable Speed_less than 1975	890.55	9999.00	0.12	0.12	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHWC_No Variable Speed_1975-1985	1165.63	9999.00	0.16	0.16	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHWC_No Variable Speed_1985-1996	669.22	9999.00	0.09	0.09	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHWC_No Variable Speed_1996-2003	452.27	9999.00	0.06	0.06	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHWC_No Variable Speed_less than 1975	1156.98	9999.00	0.16	0.16	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHWC_Variable Speed_1975-1985	1266.22	9999.00	0.18	0.18	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHWC_Variable Speed_1985-1996	841.98	9999.00	0.12	0.12	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHWC_Variable Speed_1996-2003	577.90	9999.00	0.08	0.08	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
FHWC_Variable Speed_less than 1975	1256.99	9999.00	0.17	0.17	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
Floating Suction_1975-1985	282.63	9999.00	0.00	0.00	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
Floating Suction_1985-1996	222.57	9999.00	0.00	0.00	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
Floating Suction_1996-2003	197.69	9999.00	0.00	0.00	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
Floating Suction_less than 1975	280.00	9999.00	0.00	0.00	16 Food Service Products	NRFS	per HP	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC 135-240kBtuh 11.7 EER (Tier 0_1)	80.43	9999.00	0.06	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC 135-240kBtuh 12.2 EER (Tier 2)	119.98	9999.00	0.09	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC 240-760kBtuh 10.5 EER (Tier 0_1)	76.82	9999.00	0.06	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC 240-760kBtuh 10.8 EER (Tier 2)	106.69	9999.00	0.08	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC 65-135kBtuh 11.7 EER (Tier 0_1)	61.42	9999.00	0.05	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC 65-135kBtuh 12.2 EER (Tier 2)	100.97	9999.00	0.08	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC greater than 760kBtuh 10.4 EER (Tier 2)	102.86	9999.00	0.08	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC greater than 760kBtuh 9.9 EER (Tier 0_1)	48.03	9999.00	0.04	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC less than 65kBtuh 14 SEER (Tier 0_1)	62.04	9999.00	0.05	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX AC less than 65kBtuh 15 SEER (Tier 2)	115.82	9999.00	0.10	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX HP 135-240kBtuh 10.9 EER 3.3 COP (Tier 1)	143.73	9999.00	0.09	0.02	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX HP 65-135kBtuh 11.3 EER 3.4 COP (Tier 1)	123.32	9999.00	0.08	0.02	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX HP greater than 240 kBtuh 10.3 EER 3.3 COP (Tier 1)	130.44	9999.00	0.08	0.02	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX HP Packaged less than 65kBtuh 14 SEER 8 HSPF (Tier 1)	103.71	9999.00	0.05	0.03	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX HP Packaged less than 65kBtuh 15 SEER 8.5 HSPF (Tier 2)	90.60	9999.00	0.05	0.03	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX HP Split less than 65kBtuh 14 SEER 8.5 HSPF (Tier 1)	166.62	9999.00	0.05	0.08	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX HP Split less than 65kBtuh 15 SEER 9 HSPF (Tier 2)	146.52	9999.00	0.05	0.07	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX mini split AC 15 SEER	115.82	9999.00	0.10	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX mini split AC 16 SEER	179.15	9999.00	0.14	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX mini split AC 18 SEER	265.41	9999.00	0.21	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX mini split AC 20 SEER	334.42	9999.00	0.26	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX mini split HP 15 SEER 8.5 HSPF	90.60	9999.00	0.05	0.03	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX mini split HP 16 SEER 8.5 HSPF	137.65	9999.00	0.09	0.03	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX mini split HP 18 SEER 9.6 HSPF	331.40	9999.00	0.16	0.12	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX mini split HP 20 SEER 9.6 HSPF	394.14	9999.00	0.21	0.12	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
HVAC DX PTAC 12000 Btuh 10.7 EER	51.73	9999.00	0.04	0.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	ClearResults
HVAC DX PTAC 15000 Btuh 9.8 EER	77.44	9999.00	0.06	0.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	ClearResults
HVAC DX PTAC 7600 Btuh 12.2 EER	34.60	9999.00	0.03	0.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 10HP	23003.87	2.63	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 10HP w Economizer	11381.83	1.30	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 15HP	34023.46	3.88	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 15HP w Economizer	16834.09	1.92	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 20HP	45364.62	5.18	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 20HP w Economizer	22445.46	2.56	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 25HP w Economizer	27876.97	3.18	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 30HP w Economizer	33274.61	3.80	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 40HP w Economizer	44366.15	5.06	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 50HP w Economizer	55222.95	6.30	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 5HP	11784.66	1.35	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 5HP w Economizer	5830.80	0.67	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on chilled water pumps 7.5HP	17385.62	1.98	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults

VFDs on chilled water pumps 7.5HP w Economizer	8602.04	0.98	0.00	0.00	10 Information Technology	NRIT	per pump	Non-Residential	Engineering Estimates	ClearResults
VFDs on CRAC CRAH AHU fans 10HP	22261.96	2.54	0.00	0.00	10 Information Technology	NRIT	per fan	Non-Residential	Engineering Estimates	ClearResults
VFDs on CRAC CRAH AHU fans 15HP	32926.15	3.76	0.00	0.00	10 Information Technology	NRIT	per fan	Non-Residential	Engineering Estimates	ClearResults
VFDs on CRAC CRAH AHU fans 20HP	43901.34	5.01	0.00	0.00	10 Information Technology	NRIT	per fan	Non-Residential	Engineering Estimates	ClearResults
VFDs on CRAC CRAH AHU fans 24HP	47200.05	0.54	0.00	0.00	10 Information Technology	NRIT	per fan	Non-Residential	Engineering Estimates	ClearResults
VFDs on CRAC CRAH AHU fans 3HP	6842.75	0.78	0.00	0.00	10 Information Technology	NRIT	per fan	Non-Residential	Engineering Estimates	ClearResults
VFDs on CRAC CRAH AHU fans 5HP	11404.59	1.30	0.00	0.00	10 Information Technology	NRIT	per fan	Non-Residential	Engineering Estimates	ClearResults
VFDs on CRAC CRAH AHU fans 7.5HP	16824.90	1.92	0.00	0.00	10 Information Technology	NRIT	per fan	Non-Residential	Engineering Estimates	ClearResults
Low Flow Showerhead (DI) - COMM, public use 1.5 gpm	793.00	0.09	0.03	0.03	10 HVAC	NRHVAC	per showerhead	Non-Residential	Engineering Estimates	ClearResults
Chilled Water Reset- Air Cooled Chillers, Grocery	17.20	0.02	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Water Reset- Air Cooled Chillers, Other	13.70	0.02	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Water Reset- Air Cooled Chillers, Retail	19.20	0.02	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Water Reset- Water Cooled Chillers, Other	8.35	0.01	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Wtr Reset- Air Cooled Chillers, College or Sm Ofc	11.90	0.02	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Wtr Reset- Air Cooled Chillers, SCH (K-12)	9.17	0.02	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Wtr Reset- Wtr Cooled Chillers, College or Sm Ofc	7.23	0.01	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Wtr Reset- Wtr Cooled Chillers, Retail	11.70	0.01	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Wtr Reset- Wtr Cooled Chillers, SCH (K-12)	5.60	0.01	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Chilled Wtr Reset-Wtr Cooled Chillers, Grocery	10.50	0.01	0.00	0.00	10 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	ClearResults
Faucet Aerator (DI) - COMM, pvt use 0.5 gpm	224.00	0.03	0.03	0.03	10 HVAC	NRHVAC	per aerator	Non-Residential	Engineering Estimates	ClearResults
Faucet Aerator (DI) - COMM, pvt use 1.0 gpm	158.00	0.02	0.02	0.02	10 HVAC	NRHVAC	per aerator	Non-Residential	Engineering Estimates	ClearResults
Faucet Aerator (DI) - Commercial, public use 0.5 gpm	1597.00	0.18	0.03	0.03	10 HVAC	NRHVAC	per aerator	Non-Residential	Engineering Estimates	ClearResults
Faucet Aerator (DI) - Commercial, public use 1.0 gpm	1127.00	0.13	0.02	0.02	10 HVAC	NRHVAC	per aerator	Non-Residential	Engineering Estimates	ClearResults
Faucet Aerator (DI) - School, public use 0.5 gpm	1199.00	0.14	0.03	0.03	10 HVAC	NRHVAC	per aerator	Non-Residential	Engineering Estimates	ClearResults
Faucet Aerator (DI) - School, public use 1.0 gpm	846.00	0.10	0.02	0.02	10 HVAC	NRHVAC	per aerator	Non-Residential	Engineering Estimates	ClearResults
Low Flow Showerhead (DI) - COMM, pvt use 1.5 gpm	396.00	0.05	0.03	0.03	10 HVAC	NRHVAC	per showerhead	Non-Residential	Engineering Estimates	ClearResults
Water Heater Pipe Insulation	77.00	0.01	0.01	0.01	13 HVAC	NRHVAC	per ft	Non-Residential	Engineering Estimates	ClearResults
Walk-in Cooler Automatic Door-Closer Retrofit	668.00	9999.00	0.00	9999.00	8 Food Service Products	NRFS	per automatic door-closer	Non-Residential	Engineering Estimates	ClearResults
Walk-in Freezer Automatic Door-Closer Retrofit	1753.00	9999.00	0.00	9999.00	8 Food Service Products	NRFS	per automatic door-closer	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout College-sq ft	0.48	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout Health-sq ft	0.32	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout Hotel-sq ft	0.43	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout Large Office-sq ft	0.26	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout Medium Office-sq ft	0.21	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout Motel-sq ft	0.06	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout Other-sq ft	0.32	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout Retail-sq ft	0.57	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout School-sq ft	0.41	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
CoolRoof New Replace on Burnout Strip Mall-sq ft	0.45	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
DCV Retrofit Medium Office - per sq ft	0.14	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
DCV Retrofit Motel - per sq ft	0.22	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
DCV Retrofit Restaurant - per sq ft	0.01	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
DCV Retrofit Retail - per sq ft	0.18	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
DCV Retrofit School - per sq ft	0.22	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
DCV Retrofit Small Office - per sq ft	0.11	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
DCV Retrofit Strip Mall - per sq ft	0.01	9999.00	0.00	9999.00	15 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	ClearResults
High Bay T8 4ft 2L rplng 150-249W HID (retrofit only)	512.00	0.13	0.10	0.10	15 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	ClearResults
Switch or Fixture-Mounted Daylight Sensor	85.00	0.02	0.02	0.02	8 Lighting	NRLTG	per control	Non-Residential	Engineering Estimates	ClearResults
SBES HVAC AC	1.00	9999.00	9999.00	9999.00	15 Small Business Energy Saver	SSBDR	per kWh	Non-Residential	Original Estimates (Based on estimates from Lime Energy and SmartWatt)	Duke Energy
SBES HVAC HP	1.00	9999.00	9999.00	9999.00	15 Small Business Energy Saver	SSBDR	per kWh	Non-Residential	Original Estimates (Based on estimates from Lime Energy and SmartWatt)	Duke Energy
SBES Lighting 8760	1.00	0.0001142	0.0001142	0.0001142	10 Small Business Energy Saver	SSBDR	per kWh	Non-Residential	Original Estimates (Based on estimates from Lime Energy and SmartWatt)	Duke Energy
SBES Lighting Daylighting	1.00	0.0002664	0.0002664	0.0002664	10 Small Business Energy Saver	SSBDR	per kWh	Non-Residential	Original Estimates (Based on estimates from Lime Energy and SmartWatt)	Duke Energy
SBES Lighting DusktoDawn	1.00	0.0002283	0.0000000	0.0002283	10 Small Business Energy Saver	SSBDR	per kWh	Non-Residential	Original Estimates (Based on estimates from Lime Energy and SmartWatt)	Duke Energy
SBES Decsensors	1.00	0.0002664	0.0002664	0.0002664	10 Small Business Energy Saver	SSBDR	per kWh	Non-Residential	Original Estimates (Based on estimates from Lime Energy and SmartWatt)	Duke Energy
SBES Refrigeration	1.00	0.0001142	0.0001142	0.0001142	15 Small Business Energy Saver	SSBDR	per kWh	Non-Residential	Original Estimates (Based on estimates from Lime Energy and SmartWatt)	Duke Energy
Custom Rebate	1399.50	0.16	0.16	0.16	10 Custom	NRPRSC	per project/facility	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
PowerShare			1.00		1 Power Share*	PWVRSHR	per KW net of line losses	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
Remote-Mounted Daylight Sensor	381.00	0.10	0.10	0.10	8 Lighting	NRLTG	per control	Non-Residential	Original Estimates (Based on estimates from Lime Energy and SmartWatt)	Duke Energy
SBDR Switch 30% DR			2.25		1 Power Manager* for Business	SBEEDR	per device	Non-Residential	Original Estimates (Based on estimates from Navigant Consulting)	Duke Energy
SBDR Switch 50% DR			3.83		1 Power Manager* for Business	SBEEDR	per device	Non-Residential	Original Estimates (Based on estimates from Navigant Consulting)	Duke Energy
SBDR Switch 75% DR			6.08		1 Power Manager* for Business	SBEEDR	per device	Non-Residential	Original Estimates (Based on estimates from Navigant Consulting)	Duke Energy
SBDR Thermostat 30% DR			2.01		1 Power Manager* for Business	SBEEDR	per device	Non-Residential	Original Estimates (Based on estimates from Navigant Consulting)	Duke Energy
SBDR Thermostat 50% DR			3.58		1 Power Manager* for Business	SBEEDR	per device	Non-Residential	Original Estimates (Based on estimates from Navigant Consulting)	Duke Energy
SBDR Thermostat 75% DR			5.83		1 Power Manager* for Business	SBEEDR	per device	Non-Residential	Original Estimates (Based on estimates from Navigant Consulting)	Duke Energy
SBDR Thermostat EE	872.00	9999.00	9999.00	9999.00	8 Power Manager* for Business	SBEEDR	per device	Non-Residential	Original Estimates (Based on estimates from Navigant Consulting)	Duke Energy
SD Custom Rebate	1000000.00	114.16	114.16	114.16	10 Custom	NRCSDD	per 1,000,000 kWh	Non-Residential	Original Estimates (Based on EM&V evaluation report)	Duke Energy
Barrel Wraps (Inj Mold & Extruders) KW per ton	50.00	0.01	0.01	0.01	5 Process Equipment	NRPROC	kW per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Beverage Reach-in Controller	672.00	0.14	0.04	0.04	10 Food Service Products	NRFS	per controller	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
BONUS High Bay 6L T5 HO (2 fixtures) retrofit replc 1000W HID	1591.09	0.42	0.32	0.32	12 Lighting	NRLTG	per 2 T8 HB 4' 8L fixtures (ballasts + bulbs)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
BONUS High Bay 8L 42W CFL replacing 400W HID (retrofit)	377.01	0.10	0.08	0.08	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
BONUS High Bay T8 4ft F1 8L (2 F32W fixtures)-retrofit replc 1000W HID	2191.03	0.58	0.45	0.45	12 Lighting	NRLTG	per 2 T8 HB 4' 8L fixtures (ballasts + bulbs)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
BONUS High Bay T8 4ft Fluorescent 3 Lamp (F32 Watt T8)	373.00	0.10	0.08	0.08	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
BONUS Light Tube	309.60	0.13	0.10	0.10	14 Lighting	NRLTG	per light tube	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
BONUS Pulse Start Metal Halide 320W retrofit only	422.78	0.11	0.09	0.09	12 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
CEE Tier 1 Room AC greater than 14,000 Btu per hr	212.00	0.22	0.22	9999.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
CEE Tier 1 Room AC less than 14,000 Btu per hr	129.00	0.14	0.14	9999.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
CEE Tier 2 Room AC greater than 14,000 Btu per hr	263.00	0.28	0.28	9999.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
CEE Tier 2 Room AC less than 14,000 Btu per hr	150.00	0.16	0.16	9999.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
CFL Reflector Flood	227.30	0.06	0.05	0.05	2 Lighting	NRLTG	per lamp	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
CFL Screw high wattage	460.79	0.12	0.09	0.09	2 Lighting	NRLTG	per lamp	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
CFL Screw in, Specialty	142.40	0.04	0.03	0.03	2 Lighting	NRLTG	per lamp	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Compact Fluorescent Fixture	386.00	0.102	0.078	0.078	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Compact Fluorescent Screw in	150.80	0.04	0.03	0.03	2 Lighting	NRLTG	per bulb (cfl)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Door Gaskets - Cooler and Freezer	98.00	0.01	0.01	9999.00	4 Food Service Products	NRFS	per linear foot	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ECM Cooler and Freezer Motors - ECM replacing PSC	1757.00	0.20	0.15	9999.00	15 Food Service Products	NRFS	per motor	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ECM Cooler and Freezer Motors - ECM replacing SP	581.00	0.07	0.05	9999.00	15 Food Service Products	NRFS	per motor	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Glass Door Freezers 15 to 30 f13 - var	2004.00	0.23	0.19	0.19	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Glass Door Freezers 30 to 50f13 - var	3869.00	0.44	0.37	0.37	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Glass Door Freezers less than 15f13 - var	1693.00	0.19	0.16	0.16	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Glass Door Freezers more than 50f13 - var	7118.00	0.81	0.68	0.68	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Glass Door Refrigerators 15 to 30 f13 - var	668.00	0.08	0.06	0.06	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Glass Door Refrigerators 30 to 50f13 - var	728.00	0.08	0.07	0.07	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Glass Door Refrigerators less than 15f13 - var	722.00	0.08	0.07	0.07	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Glass Door Refrigerators more than 50f13 - var	898.00	0.10	0.09	0.09	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Solid Door Freezers 15 to 30 f13 - var	869.00	0.10	0.08	0.08	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy

ENERGY STAR Commercial Solid Door Freezers 30 to 50ft3 - var	1728.00	0.20	0.17	0.17	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Solid Door Freezers less than 15ft3 - var	595.00	0.07	0.06	0.06	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Solid Door Freezers more than 50ft3 - var	3757.00	0.43	0.36	0.36	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Solid Door Refrigerators 15 to 30 ft3 - var	470.00	0.05	0.05	0.05	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Solid Door Refrigerators 30 to 50ft3 - var	790.00	0.09	0.08	0.08	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Solid Door Refrigerators less than 15ft3 - var	270.00	0.03	0.03	0.03	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
ENERGY STAR Commercial Solid Door Refrigerators more than 50ft3 - var	1133.00	0.13	0.11	0.11	12 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Energy Star Room AC over 14,000 Btu hr	212.00	0.22	0.22	9999.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Energy Star Room AC under 14,000 Btu hr	129.00	0.14	0.14	9999.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Engineered Nozzles - COMPRESS AIR	2880.00	1.44	1.08		5 Process Equipment	NRPROC	per nozzle	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Gridless	1637.00	0.37	0.31	0.31	12 Food Service Products	NRFS	per griddle	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Guest Room Energy Management, Gas Heating	194.46	0.21	0.11	9999.00	8 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
High Efficiency Pumps 10HP	2014.14	0.55	0.43		15 Pumps and Drives	NRP&M	per pump	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
High Efficiency Pumps 2HP	402.83	0.11	0.09	0.09	15 Pumps and Drives	NRP&M	per pump	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
High Efficiency Pumps 3HP	604.24	0.16	0.13	0.13	15 Pumps and Drives	NRP&M	per pump	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Holding Cabinet Full Size Insulated	5256.00	0.96	0.81	0.81	12 Food Service Products	NRFS	per unit (cabinet)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Holding Cabinet Half Size Insulated	1796.00	0.33	0.28	0.28	12 Food Service Products	NRFS	per unit (cabinet)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Holding Cabinet Three Quarter Size Insulated	2825.00	0.52	0.43	0.43	12 Food Service Products	NRFS	per unit (cabinet)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
LED Exit Signs Electronic Fixtures (Retrofit Only)	228.70	0.03	0.03	0.03	16 Lighting	NRLTG	per fixture	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Pellet Dryer Tanks & Ducts 3in dia per ft	99.00	0.02	0.02	0.02	5 Process Equipment	NRPROC	per ft	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Pellet Dryer Tanks & Ducts 4in dia per ft	149.00	0.03	0.02	0.02	5 Process Equipment	NRPROC	per ft	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Pellet Dryer Tanks & Ducts 5in dia per ft	198.00	0.04	0.03	0.03	5 Process Equipment	NRPROC	per ft	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Pellet Dryer Tanks & Ducts 6in dia per ft	248.00	0.05	0.04	0.04	5 Process Equipment	NRPROC	per ft	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Pellet Dryer Tanks & Ducts 8in dia per ft	397.00	0.08	0.06	0.06	5 Process Equipment	NRPROC	per ft	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Pre Rinse Sprayers	1396.00	0.23	0.12	0.12	5 Food Service Products	NRFS	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Snack Machine Controller	280.00	0.03	0.01	0.01	10 Food Service Products	NRFS	per controller	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Steamer_3 pan	11188.00	2.55	2.15	2.15	12 Food Service Products	NRFS	per steam cooker	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Steamer_4 pan	12459.00	2.84	2.39	2.39	12 Food Service Products	NRFS	per steam cooker	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Steamer_5 pan	13831.00	3.16	2.65	2.65	12 Food Service Products	NRFS	per steam cooker	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Steamer_6 pan	15170.00	3.46	2.91	2.91	12 Food Service Products	NRFS	per steam cooker	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Vending Equipment Controller	805.84	0.21	0.16	0.16	10 Food Service Products	NRFS	per vending equipment controller	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
VSD Air COMP replacing load no load COMP	501.00	0.12	0.12	0.12	15 Process Equipment	NRPROC	per HP	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
VSD Air COMP replacing variable displacement COMP	188.00	0.05	0.05	0.05	15 Process Equipment	NRPROC	per HP	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
AC 135,000 - 240,000 per ton	66.97	9999.00	0.08	9999.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
AC 240,000 - 760,000 per ton	68.35	9999.00	0.09	9999.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
AC 65,000 - 135,000 per ton	54.80	9999.00	0.07	9999.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
AC greater than 760,000 per ton	52.26	9999.00	0.07	9999.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
AC less than 65,000 1 Ph per ton	56.91	9999.00	0.07	9999.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
AC less than 65,000 3 Ph per ton	42.60	9999.00	0.05	9999.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Anti-sweat Heater Controls	1673.97	9999.00	0.01	0.00	12 Food Service Products	NRFS	per door	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
HP 135,000 - 240,000 per ton	158.69	9999.00	0.12	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
HP 65,000 - 135,000 per ton	109.67	9999.00	0.09	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
HP greater than 240,000 per ton	154.82	9999.00	0.11	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
HP less than 65,000 1 Ph per ton	111.01	9999.00	0.08	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
HP less than 65,000 3 Ph per ton	60.94	9999.00	0.05	0.00	15 HVAC	NRHVAC	per ton	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Night covers for displays	76.29	9999.00	0.00	0.00	5 Food Service Products	NRFS	per linear foot of case	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Packaged Terminal AC	38.04	9999.00	0.04	0.00	15 HVAC	NRHVAC	per unit	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Setback Programmable Thermostat	1158.56	9999.00	0.00	0.03	11 HVAC	NRHVAC	per unit (thermostat)	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
Window Film	4.09	9999.00	0.00	0.00	10 HVAC	NRHVAC	per sq ft	Non-Residential	Engineering Estimates	Morgan Marketing Partners/Franklin Energy
BONUS High Bay 2L T-5 High Output	385.00	0.09	0.07	0.07	10 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Bay 3L T-5 High Output	449.00	0.10	0.08	0.08	10 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Bay 4L T-5 High Output	882.00	0.20	0.17	0.17	10 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Bay 6L T-5 High Output	374.00	0.09	0.07	0.07	10 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Bay 8L T-5 High Output	2621.00	0.61	0.49	0.49	10 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Bay T8 4ft Fluorescent 4 Lamp (F32 Watt T8)	616.00	0.14	0.12	0.12	10 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Bay T8 4ft Fluorescent 6 Lamp (F32 Watt T8)	961.00	0.22	0.18	0.18	10 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Bay T8 4ft Fluorescent 8 Lamp (F32 Watt T8)	649.00	0.15	0.12	0.12	10 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance Low Watt T8 4ft 1 lamp, replacing standard T8	60.18	0.01	0.01	0.01	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance Low Watt T8 4ft 2 lamp, replacing standard T8	85.98	0.02	0.01	0.01	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance Low Watt T8 4ft 4 lamp, replacing standard T8	154.76	0.03	0.03	0.03	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance T8 4ft 2 lamp, replacing standard T8	72.43	0.02	0.01	0.01	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS Low Watt T8 lamps 2-4ft, replacing standard 32 Watt T8	35.05	0.01	0.01	0.01	12 Lighting	NRLTG	per bulb	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS Occupancy Sensors over 500 Watts	684.80	0.19	0.30	0.19	10 Lighting	NRLTG	per sensor	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS Occupancy Sensors under 500 Watts	273.50	0.08	0.12	0.08	10 Lighting	NRLTG	per sensor	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
VFD HVAC Fan	1011.70	0.16	0.07	9999.00	15 Pumps and Drives	NRP&M	per fan hp	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
VFD HVAC Pump	1558.00	0.27	0.21	9999.00	15 Pumps and Drives	NRP&M	per CHW pump hp	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
VFD Process Pump 1-50 HP	270.60	0.04	0.03	0.03	15 Pumps and Drives	NRP&M	per HP	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance Low Watt T8 4ft 3 lamp, replacing standard T8	146.16	0.03	0.03	0.03	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance T8 4ft 1 lamp, replacing standard T8	44.39	0.01	0.01	0.01	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance T8 4ft 2 lamp, replacing T12 High Output 8ft 1 lamp	285.59	0.06	0.05	0.05	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance T8 4ft 3 lamp, replacing standard T8	81.77	0.02	0.01	0.01	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance T8 4ft 4 lamp, replacing standard T8	121.49	0.03	0.02	0.02	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
BONUS High Performance T8 4ft 4 lamp, replacing T12 High Output 8ft 2 lamp	523.89	0.11	0.09	0.09	12 Lighting	NRLTG	per fixture (ballast + bulb)	Non-Residential	Duke Energy Ohio EM&V Evaluation	TecMarket Works
MSD Prescriptive	1000000.00	114.16	114.16	114.16	11 NLRPSD	NLRPSD	per 1,000,000 kWh	Non-Residential	Original Estimates (Based on EM&V evaluation report)	Duke Energy

Smart Saver® Residential	
Program Description	This program includes measures for lighting, HVAC Equipment and Services, Save Water and Energy Kits, and Multifamily products and services.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 1,009,178
	2018: 2,050,379
	2019: 2,955,537
Estimated Impacts*	2017: 31,860,748 kWh; 3,395 kW
	2018: 63,902,026 kWh; 6,825 kW
	2019: 94,788,297 kWh; 10,165 kW
Program Participation Requirements	Duke Energy Ohio served homeowners or renters currently residing or building a single family residence, condominium, duplex, apartment, or mobile home. The Multifamily Energy Efficiency Products & Services program is available to Duke Energy Ohio served apartments on a residential rate.
Marketing Approach	Including but not limited to: Email, Bill Messages, Bill Envelopes, Social Media, Direct Mail, Printed Collateral, Earned Media, Other Duke Energy collaboration efforts
Program Implementation	Third Party Vendors
Program Budget	2017: \$7,879,154
	2018: \$7,726,410
	2019: \$7,065,579
Participant Costs (if any)	Varies by Measure
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Residential Energy Assessments	
Program Description	Residential Energy Assessments is a free in-home assessment designed to help customers reduce energy usage and energy cost. 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.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 17,500
	2018: 35,175
	2019: 53,025
Estimated Impacts*	2017: 1,670,100 kWh; 204 kW
	2018: 3,356,901 kWh; 409 kW
	2019: 5,060,402 kWh; 617 kW
Program Participation Requirements	Available to individually metered residential customers receiving concurrent service from the Company. On-site assessments are only available to owner-occupied single family residences with at least 4 months of billing history.
Marketing Approach	Targeted mailings to pre-qualified residential customers. E-mail marketing will be used when targeted customers have elected to receive offers electronically. Home Energy House Call program information and an online assessment request form is available on Duke Energy Ohio's website.
Program Implementation	Third Party Vendors
Program Budget	2017: \$1,033,319
	2018: \$1,057,844
	2019: \$1,063,925
Participant Costs (if any)	Not applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

My Home Energy Report (MyHER)	
Program Description	The My Home Energy Report ("MyHER") is an energy efficiency program based on behavioral science to motivate energy efficient behavior. This program uses 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.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 400,052
	2018: 400,853
	2019: 401,661
Estimated Impacts*	2017: 97,847,412 kWh; 25,019 kW
	2018: 98,463,103 kWh; 25,177 kW
	2019: 98,559,874 kWh; 25,201 kW
Program Participation Requirements	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 residences and multi-family residences receiving concurrent service from the company.
Marketing Approach	The Program will be marketed through direct mail. The reports are also available to customers on-line or via mobile channels.
Program Implementation	Third Party Vendors
Program Budget	2017: \$4,622,106
	2018: \$4,708,403
	2019: \$4,745,667
Participant Costs (if any)	Not applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Energy Efficiency Education for Schools	
Program Description	The Energy Efficiency Education Program for Schools is available to students K-8 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 household at no direct cost.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 6,000
	2018: 12,000
	2019: 18,000
Estimated Impacts*	2017: 3,209,568 kWh; 863kW
	2018: 6,419,136 kWh; 1,727 kW
	2019: 9,628,704 kWh; 2,590 kW
Program Participation Requirements	Eligible participants include Duke Energy Ohio residential customers who reside in households with school-age children enrolled in public and private schools.
Marketing Approach	Including but not limited to: Email, Social Media, Direct Mail, Printed Collateral, Earned Media, Other Duke Energy collaboration efforts
Program Implementation	Third Party Vendors
Program Budget	2017: \$503,192
	2018: \$506,039
	2019: \$507,834
Participant Costs (if any)	Not Applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Power Manager®	
Program Description	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.
Program Objections	Regarding the basis for the load impacts of Power Manager and PowerShare, which have been evaluated annually for several years, Duke Energy Ohio has contracted third-party EM&V consultants to provide annual evaluations. These evaluations follow recommended industry practices, PJM guidelines, and/or are based on primary data collected from DR devices attached to the customers' air conditioner, data loggers, and interval/AMI meters.
Customer Class	Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 45,477
	2018: 46,894
	2019: 48,188
Estimated Impacts*	2017: Not Applicable kWh; 48,589 kW
	2018: Not Applicable kWh; 49,800 kW
	2019: Not Applicable kWh; 50,859 kW
Program Participation Requirements	This program is available to Duke Energy Ohio residential customers residing in owner-occupied, single-family residences with functioning outdoor air conditioning and/or eligible water heaters.
Marketing Approach	Including but not limited to: Email, Social Media, Direct Mail, Printed Collateral, Telemarketing, Other Duke Energy program promotion
Program Implementation	Third Party Vendors
Program Budget	2017: \$2,058,344
	2018: \$1,984,209
	2019: \$2,039,294
Participant Costs (if any)	Not Applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency and demand response measures and customer engagement will advance the adoption of energy efficiency and demand response measures and behavior.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TA11.
*Cumulative impacts and participants	

Low Income Neighborhood	
Program Description	The Duke Energy Ohio Neighborhood 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.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 1,339
	2018: 2,678
	2019: 4,017
Estimated Impacts*	2017: 600,001 kWh; 184kW
	2018: 1,200,001 kWh; 367 kW
	2019: 1,800,002 kWh; 551 kW
Program Participation Requirements	This program will be available to income qualified homeowners and renters occupying single family and multi-family dwellings in the target neighborhoods that have electric service provided by Duke Energy Ohio.
Marketing Approach	Including but not limited to: Door Hangers, Social Media, Direct Mail, Press Releases, Community Partnerships, Community Publications.
Program Implementation	Third Party Vendors
Program Budget	2017: \$587,106
	2018: \$588,437
	2019: \$590,590
Participant Costs (if any)	Not Applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Low Income Weatherization - Pay for Performance	
Program Description	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. 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 will partner with 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 fee per measure installed in Duke Energy customers' homes based on the average kWh savings per measure.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 15,685
	2018: 31,369
	2019: 47,054
Estimated Impacts*	2017: 4,922,709 kWh; 1,040 kW
	2018: 9,845,418 kWh; 2,080 kW
	2019: 14,768,128 kWh; 3,119 kW
Program Participation Requirements	This program will be available to income qualified homeowners and renters occupying single family and multi-family dwellings that have electric service provided by Duke Energy Ohio.
Marketing Approach	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.
Program Implementation	Third Party Vendors
Program Budget	2017: \$890,149
	2018: \$893,994
	2019: \$896,213
Participant Costs (if any)	Not Applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Smart \$aver® Non-Residential Prescriptive	
Program Description	The Smart \$aver® Non-Residential Prescriptive Incentive provides incentives to commercial and industrial consumers for installation of energy efficient equipment in applications involving new construction, retrofit, and replacement of failed equipment.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Non-Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 608,471
	2018: 1,229,112
	2019: 1,858,886
Estimated Impacts*	2017: 40,844,357 kWh; 6,001kW
	2018: 82,505,601 kWh; 12,123 kW
	2019: 124,303,798 kWh; 18,225 kW
Program Participation Requirements	All non-residential customers served by Duke Energy in Ohio are eligible for the Smart \$aver® program. Although customers may choose to opt-out of the Duke Energy program and energy efficiency rider.
Marketing Approach	Including but not limited to: Email, Social Media, Direct Mail, Printed Collateral, Newsletters, Account and Segment Managers, Other Duke Energy collaboration efforts
Program Implementation	Third Party Vendors
Program Budget	2017: \$6,562,791
	2018: \$6,725,816
	2019: \$6,878,144
Participant Costs (if any)	Varies by Measure
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Smart \$aver® Non-Residential Custom	
Program Description	Duke Energy's Smart \$aver® Non-Residential Custom Incentive offers financial assistance to qualifying commercial, industrial and institutional customers to enhance their ability to adopt and install cost-effective electrical energy efficiency projects.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Non-Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 15,702
	2018: 28,735
	2019: 42,159
Estimated Impacts*	2017: 23,557,184 kWh; 2,689 kW
	2018: 43,109,647 kWh; 4,921 kW
	2019: 63,248,684 kWh; 7,220 kW
Program Participation Requirements	All non-residential customers served by Duke Energy in Ohio are eligible for the Smart \$aver® program. Although customers may choose to opt-out of the Duke Energy program and energy efficiency rider.
Marketing Approach	Including but not limited to: Email, Social Media, Direct Mail, Printed Collateral, Newsletters, Account and Segment Managers, Trade Allies, and Other Duke Energy collaboration efforts
Program Implementation	Third Party Vendors
Program Budget	2017: \$3,008,863
	2018: \$2,659,400
	2019: \$2,751,076
Participant Costs (if any)	Varies by Measure
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Small Business Energy Saver	
Program Description	The objective of the Small Business Energy Saver is to enable the installation of high efficiency equipment in existing small non-residential facilities.
Program Objections	Regarding the basis for the load impacts, DSM analysts and program managers determine the impact estimates using recognized industry standards such as IPMVP and UMP, information from DSM consultants including Morgan Marketing Partners and CleaResults, TRMs, and other utility third-party EM&V results of similar programs. Duke Energy requires all contracted third-party EM&V consultants to review the ex-ante savings for each program as a separate deliverable of each evaluation and uses the impact results of the evaluations to update the program and measure impacts.
Customer Class	Non-Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 24,713,200
	2018: 48,601,700
	2019: 69,695,700
Estimated Impacts*	2017: 26,257,838 kWh; 5,907 kW
	2018: 51,639,429 kWh; 11,617 kW
	2019: 74,051,858 kWh; 16,659 kW
Program Participation Requirements	Non-residential small business customers served by Duke Energy in Ohio are eligible for the Small Business Energy Saver Program.
Marketing Approach	Including but not limited to: Email, Social Media, Direct Mail, Printed Collateral, Newsletters, Account and Segment Managers, Trade Allies, and Other Duke Energy collaboration efforts
Program Implementation	Third Party Vendors
Program Budget	2017: \$5,252,572
	2018: \$5,098,983
	2019: \$4,524,267
Participant Costs (if any)	Varies by Measure
Market Transformation Activities	The Company believes promoting investment in energy efficiency measures and customer engagement will advance the adoption of energy efficiency measures and behavior. The Company will continue to examine the level of free ridership in each of these programs as a potential indicator of market transformation.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

PowerShare®	
Program Description	PowerShare® is Duke Energy Ohio's demand response program offered to commercial and industrial customers. The program offers various options for customers to choose from.
Program Objections	Regarding the basis for the load impacts of Power Manager and PowerShare, which have been evaluated annually for several years, Duke Energy Ohio has contracted third-party EM&V consultants to provide annual evaluations. These evaluations follow recommended industry practices, PJM guidelines, and/or are based on primary data collected from DR devices attached to the customers' air conditioner, data loggers, and interval/AMI meters.
Customer Class	Non-Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 43,100
	2018: 30,000
	2019: 30,000
	2017: Not Applicable kWh; 46,203 kW
Estimated Impacts*	2018: Not Applicable kWh; 32,160 kW
	2019: Not Applicable kWh; 32,160 kW
	All non-residential customers who are able to meet the load shedding requirements.
Program Participation Requirements	All non-residential customers who are able to meet the load shedding requirements.
Marketing Approach	Including but not limited to: Account and Segment Managers
Program Implementation	Third Party Vendors
Program Budget	2017: \$3,029,934
	2018: \$2,423,793
	2019: \$2,447,707
Participant Costs (if any)	Not Applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency and demand response measures and customer engagement will advance the adoption of energy efficiency and demand response measures and behavior.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Power Manager® for Apartments	
Program Description	Power Manager® for Apartments is a residential load control program focused on Apartment Complexes/Communities. It is used to reduce electricity demand by controlling residential air conditioners and/or electric water heaters during periods of peak demand.
Program Objections	Regarding the basis for the load impacts of Power Manager and PowerShare, which have been evaluated annually for several years, Duke Energy Ohio has contracted third-party EM&V consultants to provide annual evaluations. These evaluations follow recommended industry practices, PJM guidelines, and/or are based on primary data collected from DR devices attached to the customers' air conditioner, data loggers, and interval/AMI meters.
Customer Class	Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 94
	2018: 476
	2019: 915
Estimated Impacts*	2017: Not Applicable kWh; 67 kW
	2018: Not Applicable kWh; 399 kW
	2019: Not Applicable kWh; 792 kW
Program Participation Requirements	This program is available to Duke Energy Ohio residential customers residing in apartments with functioning outdoor air conditioning and/or eligible water heaters.
Marketing Approach	Including but not limited to: Email, Social Media, Direct Mail, Printed Collateral, Other Duke Energy program promotion
Program Implementation	Third Party Vendors
Program Budget	2017: \$116,217
	2018: \$141,115
	2019: \$185,045
Participant Costs (if any)	Not Applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency and demand response measures and customer engagement will advance the adoption of energy efficiency and demand response measures and behavior.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

Power Manager® for Business	
Program Description	Provides business customers with the opportunity to participate in demand response, earn incentives and realize optional energy efficiency benefits. This program is designed as a flexible offer that provides small-to-medium size business customers with options on device types as well as level of demand response participation. Customers first select the type of device from two available options: thermostat or switch.
Program Objections	Regarding the basis for the load impacts of Power Manager and PowerShare, which have been evaluated annually for several years, Duke Energy Ohio has contracted third-party EM&V consultants to provide annual evaluations. These evaluations follow recommended industry practices, PJM guidelines, and/or are based on primary data collected from DR devices attached to the customers' air conditioner, data loggers, and interval/AMI meters.
Customer Class	Non-Residential
Duration	2017 - 2019
Estimated Program Participation*	2017: 138
	2018: 1,625
	2019: 3,745
Estimated Impacts*	2017: 62,631 kWh; 270 kW
	2018: 739,414 kWh; 3,183 kW
	2019: 1,705,046 kWh; 7,332 kW
Program Participation Requirements	This program is available to eligible Duke Energy Ohio small and medium commercial establishments.
Marketing Approach	Including but not limited to: Email, Social Media, Direct Mail, Printed Collateral, Other Duke Energy program promotion
Program Implementation	Third Party Vendors
Program Budget	2017: \$531,272
	2018: \$454,686
	2019: \$691,685
Participant Costs (if any)	Not Applicable
Market Transformation Activities	The Company believes promoting investment in energy efficiency and demand response measures and customer engagement will advance the adoption of energy efficiency and demand response measures and behavior.
Description of Evaluation, Measurement, and Verification	The EM&V plans for each program are provided in Exhibit TAH1.
*Cumulative impacts and participants	

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Summary: Application Duke Energy Ohio, Inc.'s Application for Energy Efficiency and Peak Demand Reduction Portfolio of Programs electronically filed by Ms. E Minna Rolfes on behalf of Amy B. Spiller and Elizabeth H. Watts and Duke Energy Ohio, Inc.