

Energy Efficiency and Peak Demand Reduction Program Portfolio Status Report to the Public Utilities Commission of Ohio

**For the period
January 1, 2017 to December 31, 2017**

Ohio Edison Company
The Cleveland Electric Illuminating Company
The Toledo Edison Company

Docket Nos. 18-0841-EL-EEC
18-0842-EL-EEC
18-0843-EL-EEC

May 15, 2018

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1 Introduction

Pursuant to Rule 4901:1-39-05, Ohio Administrative Code (“O.A.C.”) and the Commission’s February 24, 2016 Entry in Docket No. 16-0072-EL-WVR, Ohio Edison Company (“Ohio Edison” or “OE”), The Cleveland Electric Illuminating Company (“CEI”) and The Toledo Edison Company (“Toledo Edison” or “TE”, collectively, “Companies”) submit their Portfolio Status Report (“Report”) for the period January 1, 2017 through December 31, 2017 (“Reporting Period”). This Report addresses the Companies’ compliance with the energy efficiency (“EE”) and peak demand reduction (“PDR”) benchmarks set forth in R.C. § 4928.66(A) for the Reporting Period.

2 History and Background

On December 15, 2009, the Companies filed their respective three year Energy Efficiency and Peak Demand Reduction Plans in Case Nos. 09-1947-EL-POR *et seq.*, setting forth portfolios of Energy Efficiency and Peak Demand Reduction programs that covered the period of 2010-2012.¹ The Companies have previously filed reports demonstrating the EE and PDR savings achieved in compliance with benchmarks set forth in R.C. § 4928.66(A).²

On July 31, 2012, the Companies filed their respective three year Energy Efficiency and Peak Demand Reduction Plans (“13-15 EEPDR Plans”) in Case Nos. 12-2190-EL-POR *et seq.* (“13-15 Portfolio Case”), setting forth portfolios of Energy Efficiency and Peak Demand Reduction (EE&PDR) programs covering the period of 2013-2015.³ The Commission approved these 13-15 EEPDR Plans in its March 23, 2013 Opinion and Order, with certain modifications on rehearing.

Effective September 12, 2014, the General Assembly passed Substitute Senate Bill 310 (“S.B. 310”), which amended, among other things, R.C. §4928.66. In accordance with S.B. 310, on September 24, 2014, the Companies filed an Application to amend the 13-15 EEPDR Plans (“Amended EEPDR Plan”) in the 13-15 Portfolio Case.⁴ The Commission approved these Amended EEPDR Plans in its November 20, 2014 Opinion and Order, with certain modifications. The Amended EEPDR Plans covered the years 2015-2016.

¹ See generally, *In re Application of [the Companies] for Approval of Their Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2010 Through 2012 and Associated Cost Recovery Mechanism*, Case Nos. 09-1947-EL-POR *et seq.*, Application and Related Reports.

² See generally, *Energy Efficiency and Peak Demand Reduction Program Portfolio Status Reports to the Public Utilities Commission of Ohio*, Case Nos. 17-1226-EL-EEC *et seq.* (2016), Case Nos. 16-0941-EL-EEC *et seq.* (2015), 15-0900-EL-EEC *et seq.* (2014), 14-0859-EL-EEC *et seq.* (2013), 13-1185-EL-EEC *et seq.* (2012), 12-1533-EL-EEC *et seq.* (2011), 11-2956-EL-EEC *et seq.* (2010), and 10-227-EL-EEC *et seq.* (2009)

³ See generally, *In the Matter of the Application for Approval of Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2013 to 2015*, Case Nos. 12-2190-EL-POR *et seq.*, Application and Related Reports.

⁴ See generally, *Application (Verified) for Approval of Amended Energy Efficiency and Peak Demand Reduction Plans for 2015 through 2016*, Case Nos. 12-2190-EL-POR *et seq.*, Application and related materials.

On January 19, 2016, the Companies submitted a waiver application in Docket No. 16-0072-EL-WVR to extend the 2013-2015 Reporting deadline from March 15, 2016 to May 15, 2016. On February 24, 2016, the Commission granted the waiver request for 2015, and granted each electric utility in Ohio the ability to file its Portfolio Status Report until May 15 of the year following a compliance period for each reporting year through 2018.

On April 15, 2016, the Companies submitted applications for their Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for the period January 1, 2017 – December 31, 2019 (“EEPDR Plans”).⁵ On December 9, 2016, the Companies filed a Stipulation and Recommendation revising its EEPDR Plans (“Revised Plans”).⁶ On November 21, 2017, the Commission approved the Companies’ Revised Plans with modifications. The Revised Plans, as authorized by the Commission, also contained an extension of the reporting deadline for calendar year 2019 activities from March 15, 2020 to May 15, 2020.

2.1 2017 Compliance Demonstration

Rule 4901:1-39-05(C)(1), O.A.C., requires that an electric distribution utility (“EDU”) demonstrate the actual energy savings and demand reductions, and the expected demand reductions, that the EDU’s EE&PDR programs have achieved during the reporting period, relative to the EDU’s corresponding baselines. In doing so, an EDU must provide: (i) an update to the initial benchmark report; (ii) a comparison with the applicable benchmark; and (iii) an affidavit of compliance. Each requirement as applicable to the Companies is presented below.

2.2 Benchmark Update

The Companies’ Initial Benchmark Reports were submitted for Commission approval as part of their respective EEPDR Plans. Those baselines and corresponding benchmarks have been updated for 2017, as shown in Appendix B, to reflect actual sales adjusted in accordance with Rule 4901:1-39-05(B) of the O.A.C, and the impacts of customers who have opted out of the Companies’ portfolio plan consistent with Section 4928.66(A)(2)(a) of Ohio Revised Code.

2.3 Summary of Portfolio Impacts

Cumulative energy and demand savings in this report reflect *ex-ante*, or expected savings calculations, in accordance with R.C. §4928.662 based on the State of Ohio Energy Efficiency Technical Reference Manual (“TRM”), as approved on July 31, 2013⁷, and the Commonwealth of Pennsylvania Energy Efficiency TRM. Details are noted in the program evaluation reports set forth in Appendices F – L.

⁵ See generally, *In the Matter of the Application for Approval of Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2017 to 2019*, Case Nos. 16-0743-EL-POR, Application and Related Materials.

⁶ See generally, *In the Matter of the Application for Approval of Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2017 to 2019*, Case Nos. 16-0743-EL-POR, Stipulation and Recommendation

⁷ See generally, *In The Matter Of The Protocols For The Measurement And Verification Of Energy Efficiency And Peak Demand Reduction Measures*, Case No. 09-0512-GE-UNC

Based on the summary of reported annualized Portfolio impacts through the end of the Reporting Period from approved and pending programs below, OE, CEI and TE each achieved all EE and PDR statutory requirements for 2017.

Table 2-1: The Companies' Annualized Energy and Demand Portfolio Impacts through the end of the Reporting Period⁸

Utility	Energy Efficiency Benchmarks and Results (MWh)				Peak Demand Benchmarks and Results (MW)			
	Updated 2017 Compliance Benchmark	Savings from Approved Programs ¹	Savings from Projects Pending PUCO Approval ²	Savings from Approved Programs and Pending Projects	Updated 2017 Compliance Benchmark	Savings from Approved Programs ¹	Savings from Projects Pending PUCO Approval ²	Savings from Approved Programs and Pending Projects
CEI	907,548	1,980,171	8,883	1,989,054	205.20	699.81	2.87	702.68
OE	1,164,241	2,025,608	23,241	2,048,849	265.01	632.24	7.07	639.31
TE	384,187	817,176	6,081	823,258	97.44	282.30	1.88	284.18
Total	2,455,977	4,822,955	38,206	4,861,161	567.66	1,614.35	11.82	1,626.17

¹Includes 2017 Portfolio Results as listed in Appendix C, plus results of the Companies' 2009-2016 Portfolio progress, and modifications for prior period adjustments

²Includes current and prior year Transmission and Distribution projects pending before the Commission in Dockets 17-1226-EL-EEC et. seq., and 18-0844-EL-EEC et. seq.

2.4 Summary of Energy and Demand Impacts and Associated Costs by Sector

A summary of annualized 2017 Portfolio energy and demand impacts by Sector with associated program costs is presented in the following table:

Table 2-2: Annualized 2017 Portfolio Energy and Demand Impacts and Associated Costs by Sector

	CEI ¹			OE ¹			TE ¹			Totals		
	Annual Energy Savings (MWh)	Peak Demand Savings (MW)	Program Costs (\$K)	Annual Energy Savings (MWh)	Peak Demand Savings (MW)	Program Costs (\$K)	Annual Energy Savings (MWh)	Peak Demand Savings (MW)	Program Costs (\$K)	Annual Energy Savings (MWh)	Peak Demand Savings (MW)	Program Costs (\$K)
Residential Programs	134,163	24	\$ 11,357	184,831	33	\$ 14,745	50,079	9	\$ 4,697	369,073	66	\$ 30,799
Small Enterprise	81,458	15	\$ 7,565	98,256	18	\$ 6,435	27,435	5	\$ 2,068	207,150	37	\$ 16,067
Large Enterprise	16,645	371	\$ 2,196	38,113	311	\$ 3,534	16,045	141	\$ 1,850	70,803	824	\$ 7,579
Government Tariff Lighting	27	0	\$ 9	1	0	\$ 7	7	0	\$ 2	35	0	\$ 17
Mercantile	10,850	1	\$ 545	26,261	2	\$ 1,371	9,419	1	\$ 594	46,530	5	\$ 2,509
Other Programs ²	1,789	1	-	1,532	1	-	304	0	-	3,626	1	-
Portfolio Total	244,932	413	\$ 21,670	348,995	365	\$ 26,091	103,289	156	\$ 9,211	697,217	933	\$ 56,973

¹Individual operating company totals may not add to listed totals due to rounding

²Includes pending Transmission and Distribution projects filed for approval in Dockets 18-0844-EL-EEC et. Seq

For further details, including program breakouts and Total Resource Cost ("TRC") Test⁹ results as defined by Rule 4901:1-39-01(Y), O.A.C., please refer to Appendix C.

2.5 Affidavit of Compliance

Attached hereto as Appendix A is an affidavit of Compliance executed by Eren G. Demiray, Manager, Energy Efficiency Reporting.

⁸ *Ex ante* annualized results incorporate savings from approved programs from 2009 through 2017, and pending transmission and distribution applications filed with the Commission as of May 15, 2018. Values include adjustments by appropriate loss factors.

⁹ The TRC test is required in Ohio to assess the life-cycle cost-effectiveness of EE&PDR programs. The TRC test compares the costs of investments in energy efficiency measures and programs incurred today against numerous assumptions regarding potential long-term benefits of programs.

2.6 Banking of Energy Savings

The Companies will bank any surplus energy savings and peak demand reduction amount and apply such savings toward future energy efficiency and peak demand reduction benchmarks in line with R.C. § 4928.662 (G).

2.7 Shared Savings

In accordance with the Companies' proposal in their Energy Efficiency & Peak Demand Reduction Program Portfolio Revised Plans, and the November 21, 2017 Opinion and Order in Case Nos. 16-0743-EL-POR, the Companies are eligible to receive shared savings in years that annual energy savings exceed annual benchmark requirements. In 2017, all three operating companies exceeded annual requirements and were eligible for shared savings. The details of these calculations are available in Appendix D.

2.8 Cost Cap Comparison

As ordered in the November 21, 2017 Opinion and Order approving the Companies' Revised Plans, the Companies are subject to a cost cap on their recovery of EE/PDR program costs and shared savings not to exceed four percent of the Companies' 2015 total sales to ultimate customers reported on FERC form 1. As shown in Table 2-3, the Companies' 2017 program expenses and shared savings did not exceed this cost cap.

Table 2-3: 2017 Cost Cap Comparison

	CEI	OE	TE	Total
EE/PDR Program Costs	\$ 21,670,400	\$ 26,091,377	\$ 9,211,106	\$ 56,972,883
Shared Savings (including tax impact)	\$ 5,394,377	\$ 7,042,334	\$ 3,227,742	\$ 15,664,453
Total	\$ 27,064,777	\$ 33,133,711	\$ 12,438,847	\$ 72,637,336
4% of 2015 FERC Form 1 Sales	\$ 38,006,885	\$ 50,837,104	\$ 17,955,413	\$ 106,799,402
Over/(Under)	\$ (10,942,108)	\$ (17,703,393)	\$ (5,516,566)	\$ (34,162,066)

3 Description of Programs

The programs described below were offered in each of the Companies' respective service territories during 2017, as noted. Rule 4901:1-39-05 (C)(2)(c), O.A.C., requires the Companies to include a "recommendation for whether each program should be continued, modified, or eliminated." Unless otherwise noted, the Companies recommend continuation of all programs listed in this report and its December 9, 2016 Stipulation and Recommendation in Case No. 16-0743-EL-POR.

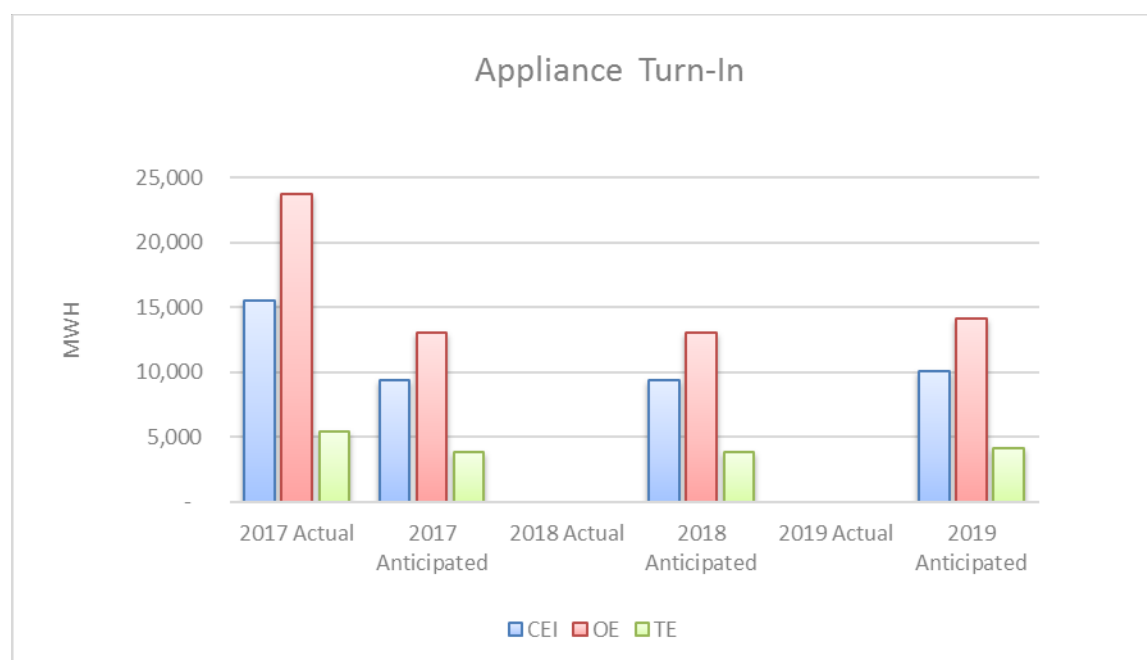
3.1 Residential Appliance Turn-In Program

This program was designed to help customers reduce their energy consumption by removing old, working refrigerators, freezers, dehumidifiers and room air conditioners (RACs) from their homes for recycling. There was a limit of two refrigerators or freezers per household per calendar year. A maximum of two room air conditioners could be picked up at the same time as the refrigerator and/or freezer. The old appliances, which are generally inefficient, were permanently removed from the system.

The program targeted existing multi-and single-family households, renters and homeowners who had old, inefficient refrigerators, freezers, dehumidifiers, or RACs. Marketing for the program consisted of newspaper advertisements, radio advertisements, TV advertisements, bill inserts, e-mails, search engine optimization, print materials at retailers, and community events. The program provides customers pick-up and recycle services for turning in qualifying, inefficient, operating appliances. To qualify for this program, the appliance(s) must be in working condition, plugged in, and cooling at the time of pick up. The customer received a \$50 incentive per recycled refrigerator or freezer and a \$25 incentive per recycled dehumidifier or RAC. The companies did offer a bonus incentive for all customers that recycled a refrigerator or freezer from September 1, 2017 – November 11, 2017. Each customer recycling during that time-period received an increased incentive of \$75 per refrigerator or freezer unit recycled.

Program Partners and Trade Allies

The program was administered by Recleim, LLC.

Table 4-2: Residential Appliance Turn-In Trend Analysis¹⁰

3.2 Residential Energy Efficient Homes Program

School Education Subprogram

The School Education and Kit Subprogram was active beginning in September 2017. This subprogram provided an opportunity for parents or guardians of students in kindergarten through 5th grade to request an Energy Conservation Kit after the school held a 25-minute performance on energy conservation and corresponding curriculum for the classroom. Parents were able to request a kit through an electronic application on the Student Energy Kit website or through a permission slip submitted to their child's teacher. Kits were shipped to the student's homes within a few weeks of the request.

Program Partners and Trade Allies

The subprogram was administered by AM Conservation Group, Inc.

Energy Efficiency Kits Subprogram

The Energy Efficiency ("EE") Kits Subprogram provided FirstEnergy Ohio customers with energy efficiency measures and educational materials to encourage residential energy usage reduction. The target market for the subprogram was residential single-family homeowners.

¹⁰ Residential Appliance Turn-In Program trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies' December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

Kits were provided to customers upon request, and the contents of kits varied slightly depending on the customer's water heating fuel source. This subprogram was primarily marketed through e-mails and outbound phone calls to eligible participants. The subprogram was also highlighted in Home Energy Reports during Q4 2017 to customers who had not previously received an EE Kit. Participants received measure descriptions and installation guidelines with their kits. The conservation kits also contained educational materials regarding residential energy saving behaviors, which encouraged kit recipients to further reduce their electricity usage. Additionally, the kits included promotional materials for the Companies' other energy efficiency incentive opportunities such as appliance recycling rebates. This practice took advantage of the unique kit distribution marketing channel and encouraged cross-participation in programs offered by the Companies.

The subprogram required customers to request kits via the electronic application on the Ohio Energy Kit website or by calling a toll-free telephone number. The Companies verified that the prospective participant was a customer of one of the Companies, and that they had not already received a kit during the Plan period. Kits were typically shipped to customers within a few weeks of the request date. The conservation kits included a help line telephone number that allowed participants to report measure defects or ask questions regarding the subprogram and specific measures.

Program Partners and Trade Allies

The subprogram was administered by Power Direct Energy.

Audits & Education Subprogram

Comprehensive Home Audit Offering

This offering was not active in 2017.

Online Audits Offering

The Online Audit Offering allowed residential customers who reside in single family or multi-family housing to analyze their home energy use and billing history. Customers of the Companies were able to take a home energy audit at any time during the year, either by accessing an online software application (i.e., the *Home Energy Analyzer*) through the Companies' website or by conducting a home energy audit by telephone with assistance from a Contact Center Customer Service Representative.

Telephone Audits Offering

A telephone home energy audit was typically initiated when a customer telephoned the Companies' Customer Service Center with questions about an electric bill. A Customer Service Representative (CSR) explained the bill to the customer in terms of the key factors that contribute to the customer's energy use. The customer was offered a home energy audit that included a review of the customer's billing history. For the telephone audit, a CSR walked a customer through the audit application, inputting the customer's data for them. There were three levels to a telephone audit. Once a telephone audit participant's data had been entered, the CSR provided the conservation and savings findings over the telephone. During the telephone conversation, the customer service representative

suggested ways in which the customer could save energy, given the main energy uses in the home that were identified. The customer service representative estimated what the customer's bill should have been in light of the billing history review and the home/appliance profile and offered a judgment as to whether the customer's electric bill was reasonable or not.

A telephone audit typically concluded with a customer service representative offering to send the customer literature on how to save energy in the home. Materials offered to telephone audit participants by mail include:

- A 2-page document titled *"Understanding Electricity Usage and Costs"* that shows the customer a formula for costing out kWh values and a chart of appliances with columns for Watts, average hours of use, average kWh used per month and average cost for that appliance;
- A 21-page document titled *"More than 100 ways to improve your electric bill"*; and
- A computer link to the *Home Energy Analyzer*.

The customer did not receive a written, customized home energy analysis report. Rather, customers receiving a telephone audit were offered a brochure on tips for saving energy in the home.

Program Partners and Trade Allies

The Online Audit portion of the subprogram was administered by Aclara.

Behavioral Subprogram

The Behavioral subprogram provided energy usage reports and specific information about each customer's energy usage as well as an analysis regarding their usage over time, with specific tips for conserving energy and other energy efficiency program opportunities that were available. The reports also compared the household's energy usage to similar households.

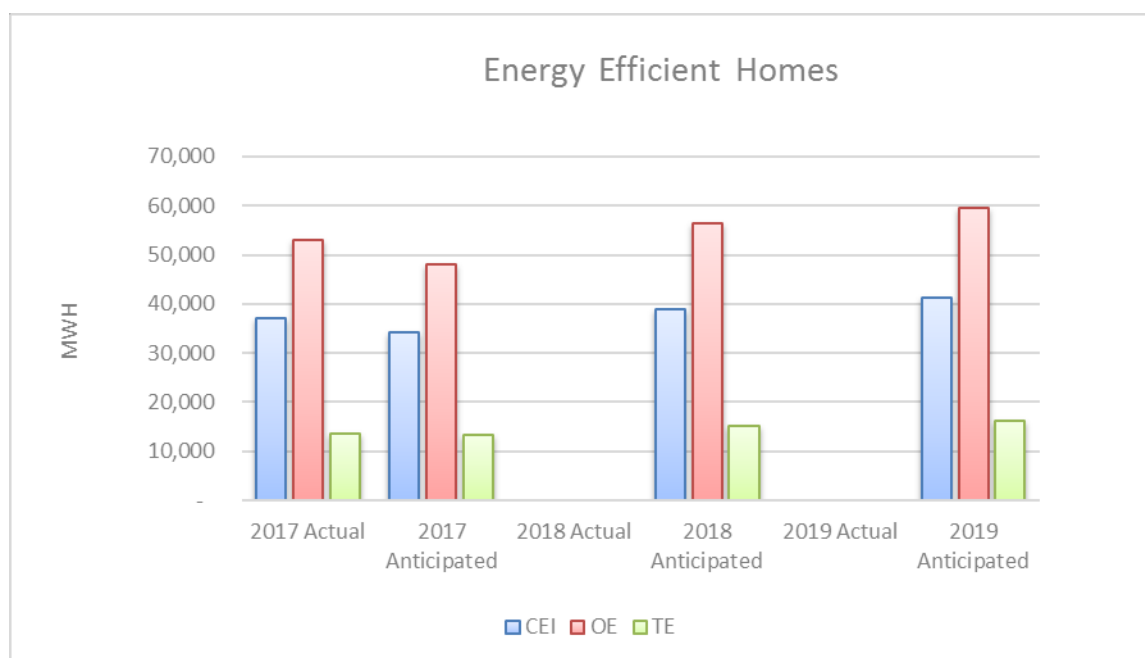
Customers received paper reports four times throughout the year and e-mail reports monthly, if an email address was available.

Program Partners and Trade Allies

The subprogram was administered by Oracle (formerly Opower).

Smart Thermostat Subprogram

This subprogram was not active in 2017.

Table 4-4: Residential Home Performance Trend Analysis¹¹

3.3 Residential Energy Efficient Products Program

The Energy Efficient Products Program provided rebates and incentives to retailers and distributors who sold and residential customers who purchased and installed ENERGY STAR® qualified appliances, efficient lighting, and consumer electronics.

The purchase of qualified equipment was encouraged through retailer and customer promotion. This occurred through web presence, paid search, e-mail, direct mail, in-store training, store signage, and bill inserts.

Appliances Subprogram

The appliances subprogram provided midstream or downstream rebates. Incentives were provided for the following ENERGY STAR®-rated energy efficient measures:

- Dehumidifiers
- Refrigerators
- Freezers
- Clothes washers
- Clothes Dryers
- Heat Pump Water Heaters

¹¹ Residential Home Performance trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies' December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

Program Partners and Trade Allies

This subprogram was administered by Honeywell Utility Solutions.

Consumer Electronics Subprogram

The consumer electronics subprogram provided midstream incentives to participating retailers for the promotion of sales of ENERGY STAR televisions, imaging equipment, computers, and computer monitors.

Program Partners and Trade Allies

This subprogram was administered by Honeywell Utility Solutions.

Lighting Subprogram

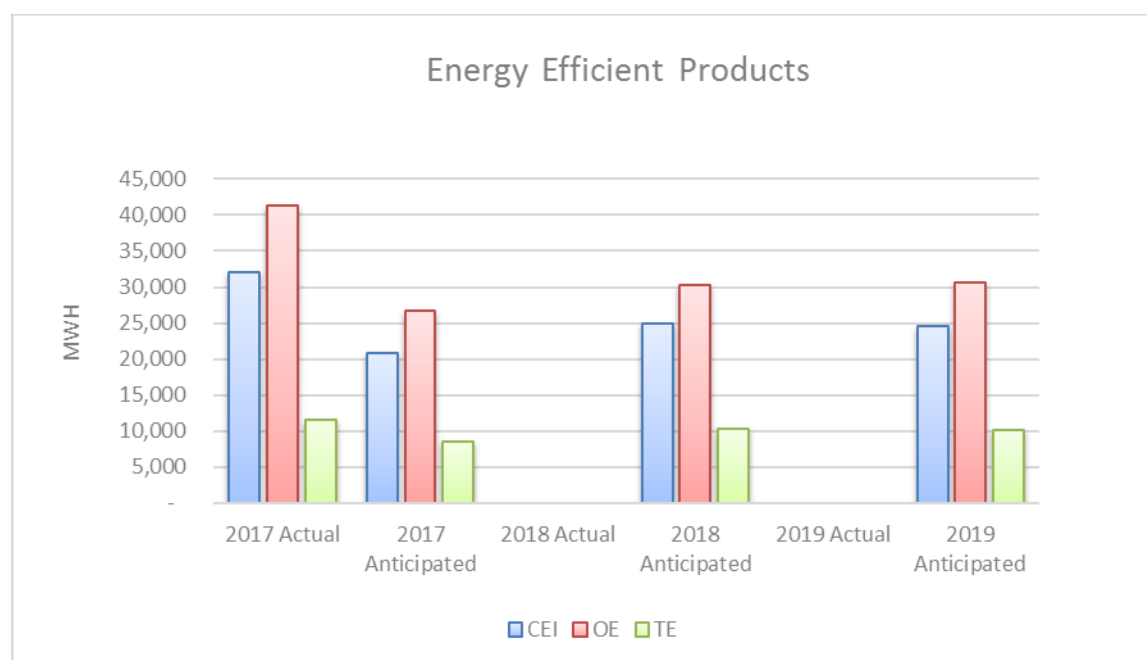
The lighting subprogram included point-of-sale incentives for a wide range of light emitting diode (LED) bulbs, including both specialty and general-purpose options. In addition to LED bulbs, incentives were also offered for LED fixtures.

Program Partners and Trade Allies

This subprogram was administered by Honeywell Utility Solutions.

HVAC Subprogram

The HVAC subprogram was not active in 2017.

Table 4-3: Residential Energy Efficient Products Trend Analysis¹²

3.4 Direct Load Control

This peak demand reduction program was not operational during 2017. Existing participant maintenance (unit service calls) was performed, but no demand reduction events were called. In December 2017, the Companies recommended to its Collaborative Group that the program should cease operation. The Companies do not plan to operate this program in its current form in future years.

3.5 Residential Low-Income

The Low-Income Program provided weatherization measures, energy efficiency solutions and client education to low-income customers that receive electric service from the Companies.

Community Connections Subprogram

The Community Connections subprogram for 2017 was a continuation of a program that began in 2003. In the state of Ohio, there is a collaborative effort that strives to leverage federal, state, utility, and other funding sources to provide weatherization and energy saving products and services to low-income customers. However, Community Connections does function as a standalone subprogram when customers are not eligible for other State program resources. The subprogram targeted residential customers at or below 200% of federal poverty guidelines and eligible for one of the following:

- Low Income Home Energy Assistance Program (LIHEAP), a federally-funded energy payment assistance program known in Ohio as HEAP;
- Percentage Income Payment Program (PIPP), an energy payment assistance program; or

¹² Residential Energy Efficient Products trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies' December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

- Home Weatherization Assistance Program (HWAP), a federally-funded energy assistance program designed to increase the energy efficiency of dwellings owned or occupied by income-eligible customers

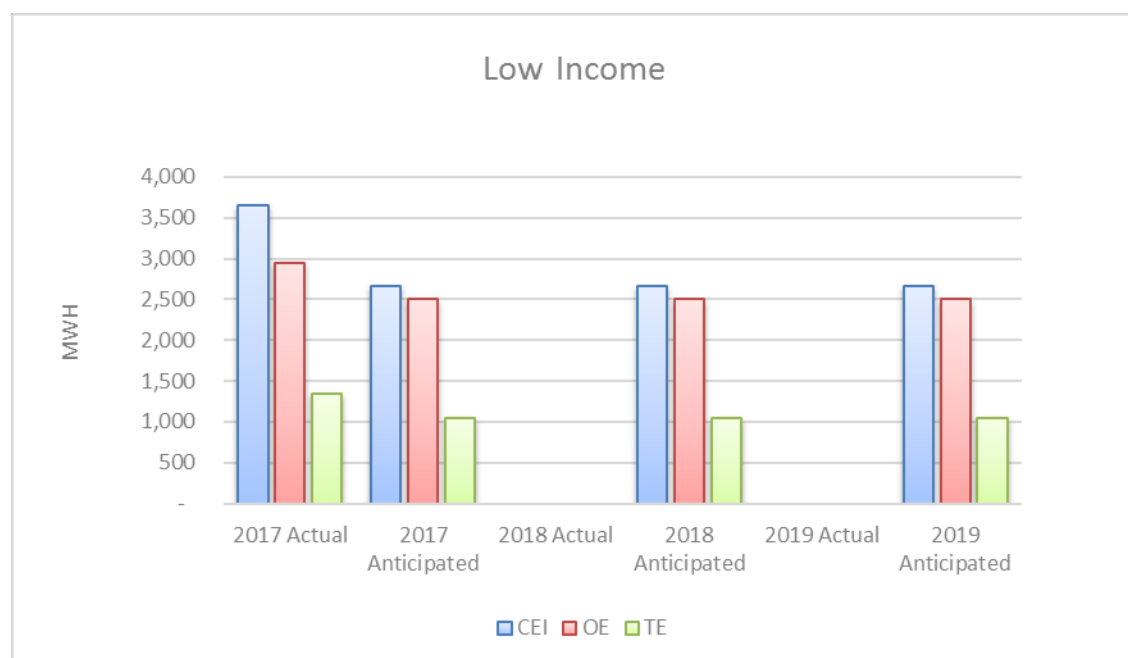
2017 subprogram enhancements included the addition of LED bulbs, ductless mini-split heat pumps, additional energy education materials, and increased site monitoring. Local agencies have on-staff “inspectors” who visited the customers’ homes. Inspectors metered the customers’ refrigerators and/or freezers to monitor the electrical use to determine the unit(s) eligibility for replacement based on kWh thresholds. The inspector talked with the customers to understand energy use in the homes and to provide energy conservation education. As part of the discussion, the inspector identified which lights in the homes were eligible to be replaced with compact fluorescent lamps (CFLs) or LED bulbs based on the fixtures meeting the minimum use criteria. The local agencies determined how best to leverage all the funds (federal, state, utility, and other) available to the customers by determining what improvement and replacement equipment the customers need. Other measures that were administered through the subprogram included: installation of insulation, air infiltration reduction (using pressure diagnostics and blower door tests), and electric water heater measures (water heater pipe wrap, energy-saving shower heads, and faucet aerators). Health and safety measures included roof repairs/replacement, electric wiring repairs and upgrades and CO detectors.

Program Partners and Trade Allies

Ohio Partners for Affordable Energy ("OPAЕ") administered the Community Connections subprogram and works with the Companies to coordinate implementation through local agencies.

Low Income New Homes Subprogram

The New Homes subprogram was not active in 2017.

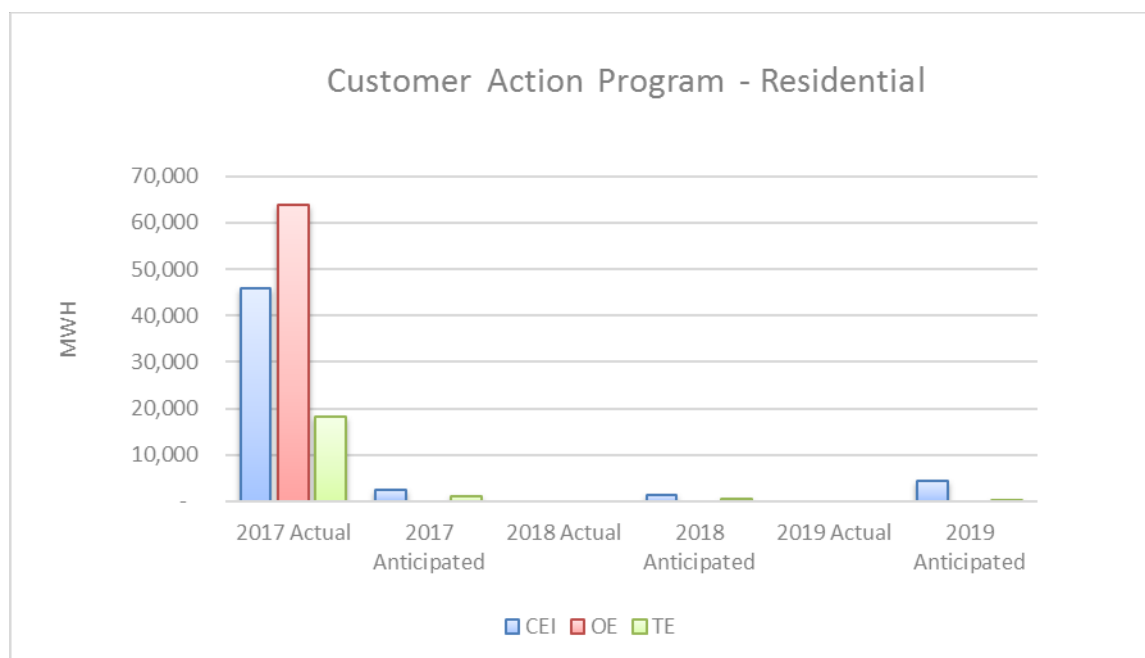
Table 4-5: Residential Low Income Trend Analysis¹³

3.6 Customer Action Program – Residential

The Customer Action Program (“CAP”) captured energy savings and peak demand reductions achieved through actions taken by customers in 2017 outside of utility incentive programs pursuant to Section 4928.662 of the Ohio Revised Code. The Evaluation, Measurement and Verification (EM&V) vendor employed a variety of EM&V approaches to capture customer and market information to support claimed savings. Methods utilized to obtain and support claimed savings included surveying efforts, market research, site verification visits, and other EM&V activities.

The survey efforts collected information such as customer demographics, home characteristics (including information on the home’s heating and cooling systems, lighting and controls), home appliances and equipment, miscellaneous end uses, customer energy use practices and behavior, conservation efforts, and the characteristics of any new and replaced equipment, as well as other information as required. On-site verifications were also conducted for a sample of customers to collect information regarding the installed conservation measures. Market data on the distribution of energy efficient products was acquired through organizations such as the Air-Conditioning, Heating & Refrigeration Institute and the Association of Home Appliance Manufacturers to support the total number of units of each measure type installed in the Companies’ service territories.

¹³ Residential Low Income trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies’ December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

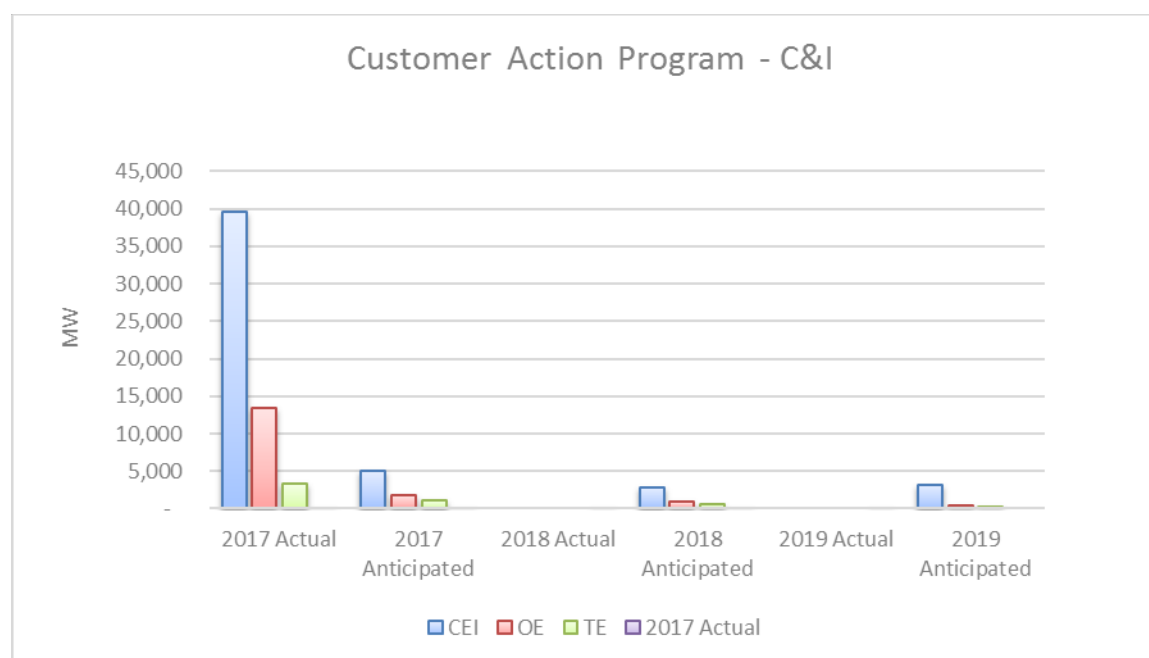
Table 4-14: Customer Action Program Trend Analysis¹⁴

3.7 Customer Action Program – Small & Large C/I

The Customer Action Program (“CAP”) captured energy savings and peak demand reductions achieved through actions taken by customers in 2017 outside of utility incentive programs pursuant to Section 4928.662 of the Ohio Revised Code. The Evaluation, Measurement and Verification (EM&V) vendor employed a variety of EM&V approaches to capture customer and market information to support claimed savings. Methods utilized to obtain, and support claimed savings included surveying efforts, market research, site verification visits, and other EM&V activities.

The survey efforts collected information such as customer demographics, building use and characteristics (including information on the building’s heating and cooling systems, lighting and controls), appliances and equipment, miscellaneous end uses, customer energy use practices and behavior, conservation efforts, and the characteristics of any new and replaced equipment as well as other information as required. On-site verifications were also conducted for a sample of customers to collect information regarding the installed conservation measures.

¹⁴ Customer Action Program trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies’ December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

Table 4-15: Customer Action Program Trend Analysis¹⁵

3.8 Commercial / Industrial Energy Solutions for Business Program - Small¹⁶

This Program offered a range of rebates for technologies applicable to business and other non-residential facilities. To be eligible to participate in the C/I Energy Solutions for Business Program - Small, a customer had to be considered “small” as defined by the customer’s rate schedule.

The subprograms that were implemented as part of the C/I Energy Solutions for Business Program - Small were: HVAC, Lighting, Food Service, Appliance Turn In, Appliances, Consumer Electronics, Agricultural, Data Centers, Custom, Retro-Commissioning, and Custom Buildings.

HVAC Subprogram

HVAC measure incentives were intended to encourage customers to maintain or install more efficient HVAC equipment in an effort to reduce both energy consumption and demand in the HVAC end use category. Prescriptive or performance-based incentives were provided to encourage customers to perform maintenance on existing units to ensure baseline performance levels were being met, to upgrade less efficient HVAC equipment to higher efficiency units, and to install HVAC system controls to improve system operation and decrease system run hours. These subprogram measures were selected and designed to encourage the customer to retrofit existing systems, implement controls and install newer energy efficiency measures.

¹⁵ Customer Action Program trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies’ December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

¹⁶ Pursuant to the Commission’s Opinion & Order in Case No. 16-0743-EL-POR, the Companies were directed to include a discussion of impacts to its programs associated with removing OHA as a program administrator. This write-up is included as Appendix E.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Lighting Subprogram

Lighting measure incentives were intended to encourage customers to install more efficient lighting equipment in an effort to reduce both energy consumption and demand in the lighting end use category. Only specialty CFLs were eligible under the CFL Lamps measure. Prescriptive and performance based incentives were provided to customers for upgrading less efficient lighting systems to higher efficiency lighting and controls. Prescriptive incentives were offered for individual lighting applications and smaller retrofit projects employing standard efficient lighting technologies. Performance based incentives were offered for higher efficient technologies as well as larger projects and retrofits, based on kWh savings. These subprogram measures were designed to encourage customer renovation of existing lighting systems and the installation of newer energy efficiency measures by not limiting the reward to standard efficient lighting technologies.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Food Service Subprogram

Food service/commercial kitchens measure incentives within the C&I Energy Solutions for Business Program - Small were intended to encourage customers to install more efficient food service equipment in an effort to reduce both energy consumption and demand in the food service sector. Prescriptive incentives were offered for retrofits of existing, and for the installation of new, energy efficient systems and equipment. These subprogram measures were designed to encourage customers to retrofit existing food service equipment, implement equipment controllers or to install newer energy efficiency measures.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Appliance Turn In Subprogram

Appliance recycling measures within the C&I Energy Solutions for Business Program - Small were intended to encourage customers to recycle inefficient refrigerators, freezers, room air conditioners and dehumidifiers.

Program Partners and Trade Allies

The subprogram was administered by Recleim, LLC.

Appliance Subprogram

Prescriptive-based incentives were provided to consumers, and financial incentives and support were provided to retailers that sell energy efficient products, such as ENERGY STAR® qualified appliances. Water Heating measures within the Appliance subprogram were intended to encourage customers to install more efficient water heating equipment in an effort to reduce both energy consumption and demand in the water heating end use category. Prescriptive based incentives were provided to customers for upgrading less efficient Domestic Hot Water (DHW) equipment.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Consumer Electronics Subprogram

Prescriptive based incentives were provided to consumers, and financial incentives and support were provided to retailers that sold energy efficient consumer electrics, such as ENERGY STAR® qualified electronics.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Agricultural

The agriculture subprogram consisted of end-use measures that were intended to encourage agriculture customers to install energy efficient equipment in an effort to reduce both energy consumption and demand in the agricultural customer sector. Prescriptive based incentives were provided to end users and support was provided to retailers that sold energy efficient equipment related to the milking, cooling, ventilation and water systems on farms.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Data Centers Subprogram

This targeted subprogram increased focus on customers with data center facilities and related equipment, including assessments or audits to identify opportunities for energy efficiency improvements. Prescriptive and performance based incentives were provided to customers for upgrading less efficient specialized processes and applications (e.g. servers, UPS systems, HVAC equipment, etc.) to high efficiency specialized processes and applications.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Custom Subprogram

Custom measures within the C&I Energy Efficient Equipment Program - Small were intended to encourage customers to retrofit or install more efficient specialized processes and applications in an effort to reduce both energy consumption and demand. Calculated or performance based incentives were provided to customers for upgrading less efficient specialized processes and applications (e.g., combined heat and power, variable frequency drives, motors, compressed air leakage reduction, equipment replacement, process change, etc.) to high efficiency specialized processes and applications.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Retro – Commissioning Subprogram

The Retro-Commissioning subprogram was intended to encourage customers to gain and utilize certified building system operation training and energy management systems to reduce energy consumption by improving building energy performance. A systematic process was used to identify less-than-optimal performance in the facility's equipment, lighting and control systems and make the necessary adjustments to restore the equipment to optimal performance.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Custom Buildings Subprogram

The Custom Buildings subprogram was intended to encourage customers to install specialized building shell improvements to reduce energy consumption and demand by improving building energy performance. This subprogram provided financial support through incentives for the implementation of cost effective, high efficiency measures to improve building energy performance by commercial and industrial customers. Performance incentives were provided to customers for installing highly specialized custom building shell improvements.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

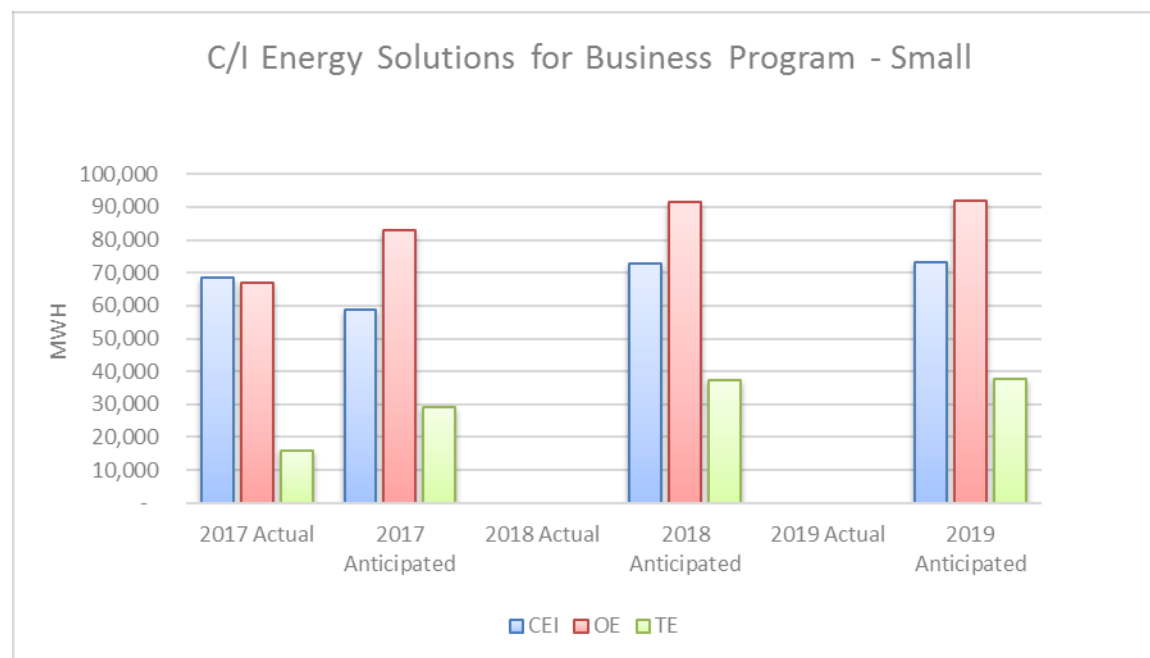
Audits & Education Subprogram

The measures within this subprogram consisted of multiple paths for a participating customer to receive an energy audit and analytics that focused on the energy usage of the building and the end use equipment, with the overall goal of installing more efficient end-use equipment and providing customers with energy usage analytics that helped implement energy management type strategies. As part of this subprogram, the Companies partnered with the Council of Smaller Enterprises (“COSE”) to perform American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) Level II Energy Efficiency Audits for commercial and industrial customers located within the Companies' service territories.

Program Partners and Trade Allies

The program was administered by Sodexo, Inc and COSE. In addition to these partners, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Table 4-6: C/I Small Equipment Trend Analysis¹⁷



¹⁷ C/I Small Equipment trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies' December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

3.9 Commercial / Industrial Energy Solutions for Business Program - Large¹⁸

The primary objective of this program was to increase the energy efficiency of existing buildings used by commercial and industrial customers. Qualifying existing commercial, industrial, and municipal customers with buildings in the Companies' service territories were eligible to participate in the program.

The subprograms that were implemented as part of the C/I Energy Solutions for Business Program-Large were: HVAC, Lighting, Data Centers, Custom, Retro-Commissioning, and Custom Buildings.

HVAC Subprogram

HVAC measures within the C&I Energy Efficient Solutions for Business Program – Large were intended to encourage customers to install more efficient HVAC equipment in an effort to reduce both energy consumption and demand in the HVAC end use category. Prescriptive or performance based incentives were provided to encourage customers to perform maintenance on existing units to ensure baseline performance levels were being met, to upgrade less efficient HVAC equipment to higher efficiency units, and to install HVAC system controls to improve system operation and decrease system run hours. These program measures were selected and designed to encourage the customer to retrofit existing systems, implement controls and install newer energy efficiency measures.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Lighting Subprogram

Lighting measures within the C&I Energy Solutions for Business Program - Large were intended to encourage customers to install more efficient lighting equipment in an effort to reduce both energy consumption and demand in the lighting end use category. Only specialty CFLs were eligible under the CFL Lamps measure. Prescriptive and performance based incentives were provided to customers for upgrading less efficient lighting systems to higher efficiency lighting and controls. Prescriptive incentives were offered for individual lighting applications and smaller retrofit projects employing standard efficient lighting technologies. Performance-based incentives were offered for higher efficient technologies as well as larger projects and retrofits, based on kWh savings. These subprogram measures were designed to encourage customer renovation of existing lighting systems and to install newer energy efficiency measures by not limiting the reward to standard efficient lighting technologies.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

¹⁸ See Appendix E.

Data Centers Subprogram

This targeted subprogram increased focus on customers that had data center facilities and related equipment, including assessments or audits to identify opportunities. Prescriptive and performance-based incentives were provided to customers for upgrading less efficient specialized processes and applications (e.g. servers, UPS systems, HVAC equipment, etc.) to high efficiency specialized processes and applications.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Custom Subprogram

Custom measures were intended to encourage customers to retrofit or install more efficient specialized processes and applications (e.g., combined heat and power, variable frequency drives, motors, compressed air leakage reduction, equipment replacement, process change, etc.) in an effort to reduce both energy consumption and demand. Performance-based incentives were provided to customers for upgrading less efficient specialized processes and applications to high efficiency specialized processes and applications.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Retro – Commissioning Subprogram

This subprogram was intended to encourage customers to gain and utilize certified building system operation training and energy management systems to reduce energy consumption by improving building energy performance. A systematic process was used to identify less-than-optimal performance in the facility's equipment, lighting and control systems and make the necessary adjustments to restore the equipment to optimal performance.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Custom Buildings Subprogram

The Custom Buildings subprogram was intended to encourage customers to install specialized building shell improvements to reduce energy consumption and demand by improving building energy performance.

This subprogram provided financial support through incentives for the implementation of cost effective, high efficiency measures meant to improve building energy performance by commercial and industrial customers. Performance incentives were provided to customers for installing highly specialized, custom building shell improvements.

Program Partners and Trade Allies

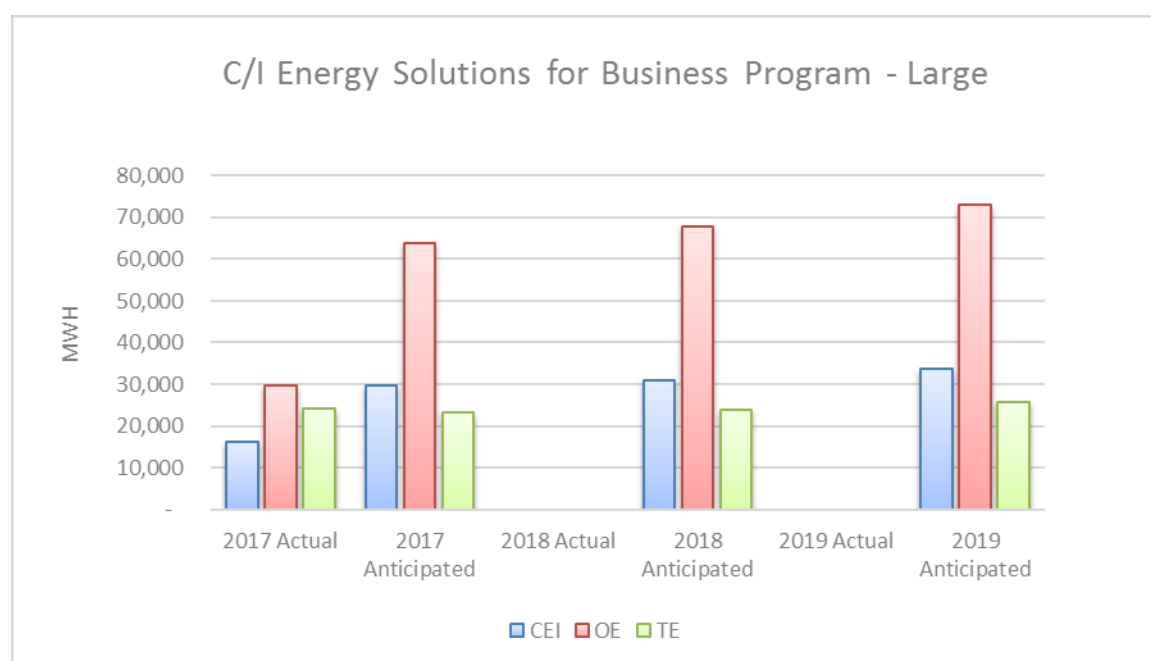
The subprogram was administered by Sodexo, Inc. In addition to this partner, the Companies utilized various trade allies and Administrators to help facilitate the implementation of programs.

Audits & Education – LCI

The audit measures within this subprogram consisted of multiple paths for a participating customer to receive an energy audit that focused on the energy usage of the building and the end use equipment, with the overall goal of installing more efficient end-use equipment and providing customers with energy usage analytics that will help implement energy management type strategies. As part of this subprogram, the Companies partnered with the COSE to perform American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) Level II Energy Efficiency Audits for commercial and industrial customers located within the Companies' service territories.

Program Partners and Trade Allies

The subprogram was administered by Sodexo, Inc. and COSE.

Table 4-7: C/I Small Equipment Trend Analysis¹⁹

3.10 Demand Reduction

The Companies' Demand Reduction Program²⁰ leveraged demand response resources including load curtailment resources participating in the PJM market, resources participating on the Companies' C/I Interruptible Load Reduction Tariff (ELR), and/or through contracts for demand response attributes with customers or PJM Curtailment Service Providers.

3.11 Government Tariff Lighting Program

Government Tariff Lighting Program

This program provided local governments with rebates for replacing inefficient traffic signals, pedestrian light signals, and customer owned and maintained street lighting with high efficiency LED equipment.

Program Partners and Trade Allies

The program was administered by Sodexo, Inc.

¹⁹ C/I Large Equipment trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies' December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

²⁰ A trend analysis is not applicable to this program as no energy efficiency savings were anticipated in the Companies' EEPDR Plan nor are any MWh energy efficiency savings being claimed as part of this program.

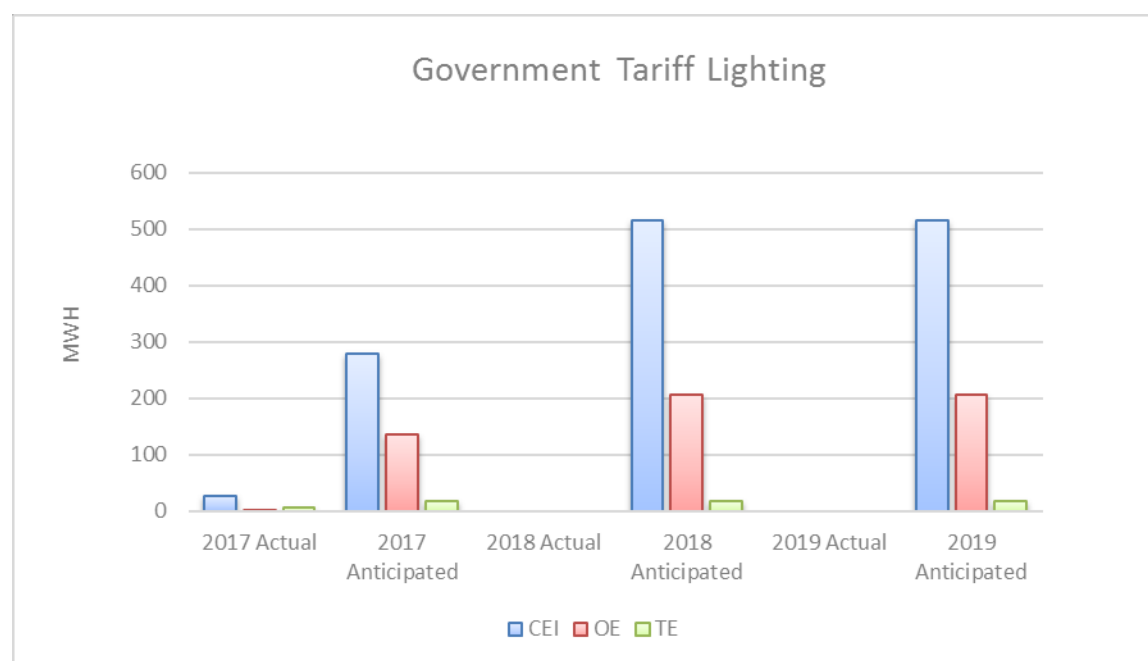
Experimental Company Owned LED Lighting Offering

This offering is provided on an experimental basis through December 31, 2019 as part of the Companies' Electric Service Tariffs. It is available to municipalities and governmental authorities that elect to take service from LED lights owned by the Companies for the lighting of streets, sidewalks, parks, and other public grounds.

Program Partners and Trade Allies

The offering was administered by the Companies.

Table 4-11: Government Tariff Lighting Trend Analysis²¹



3.12 Mercantile Customer Program²²

All customers that meet the definition of “mercantile customer,” as defined in R.C. § 4928.01 (A) (19) were eligible for this program. Since July 1, 2009, the Companies have worked with customers across their respective service territories to jointly file applications to commit the customer’s EE & PDR projects to the Companies for inclusion in the Companies’ EE & PDR results, pursuant to division R.C. § 4928.66(A)(2)(c).

Eligible customers who achieved EE & PDR savings independent of other direct utility programs or incentives were eligible to file joint applications with the Companies to the Commission for commitment of these savings to the Companies in exchange for an incentive, which may be either a request to exempt

²¹ Government Tariff Lighting trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies’ December 9, 2016 Stipulation and Recommendation.

²² See Appendix E.

the customer from paying certain charges included in the Companies' Rider DSE or a request for a cash rebate.

Customers had to demonstrate verification of savings and that these savings were sustainable. The Companies reviewed all documentation and determined that customers met this requirement to the Companies' satisfaction before filing an application. The Companies assisted customers to ensure compliance with the latest Commission orders pertaining to the measurement and verification of these savings.

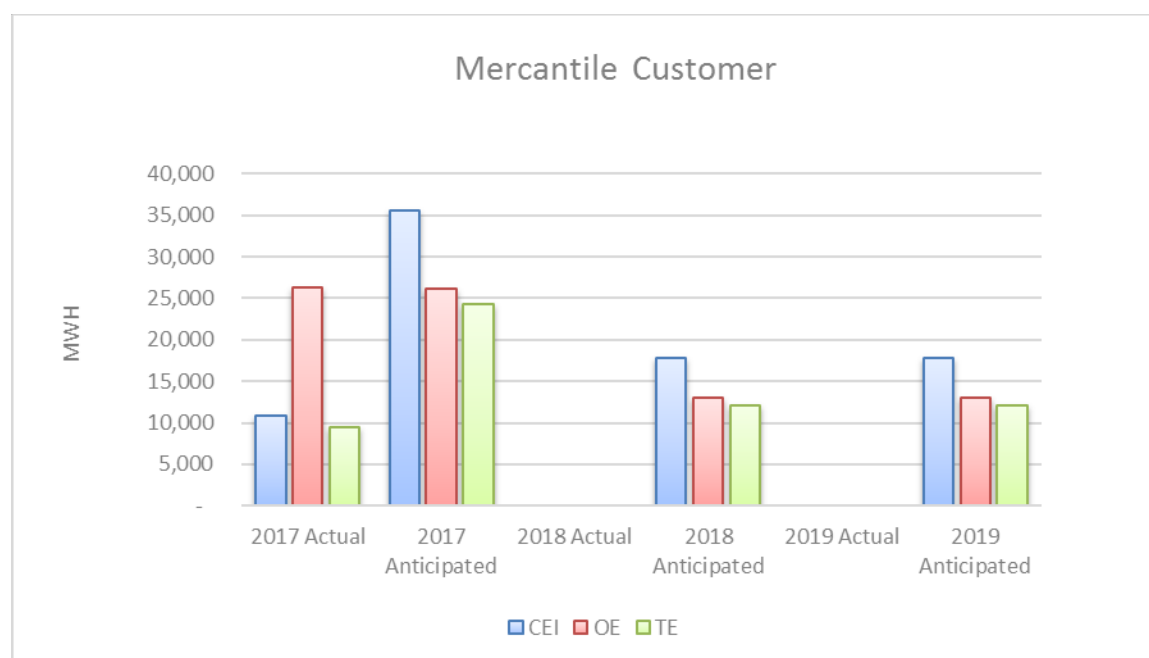
Program Partners and Trade Allies

The Companies used Administrators, based on agreements approved by the Commission. Administrators were trained periodically on the latest interpretation of Commission orders and rules, process changes, and general updates.

In 2017, the list of Administrators included: Association of Independent Colleges & Universities, COSE, County Commissioners' Association of Ohio (CCAO), Industrial Energy Users of Ohio, and the Ohio Manufacturer's Association.

The role of Administrators included:

- Educating customers about the program. This step includes providing customers with background on EE & PDR requirements for utilities and explaining the two incentive options available;
- Identifying customers who appear to qualify as a mercantile customer, who are interested in the program, who have projects that may qualify and who otherwise qualify under the Companies' applicable rate schedules;
- Providing estimates of potential EE and PDR savings;
- Screening potential customer project(s) to determine if the project(s) appear to qualify under Commission Rules and Company rate schedules; and
- For those projects that qualify, completing all necessary forms provided by the Companies and gathering all supporting documentation required by the Companies and/or the Commission.

Table 4-10: Mercantile Customer Trend Analysis²³

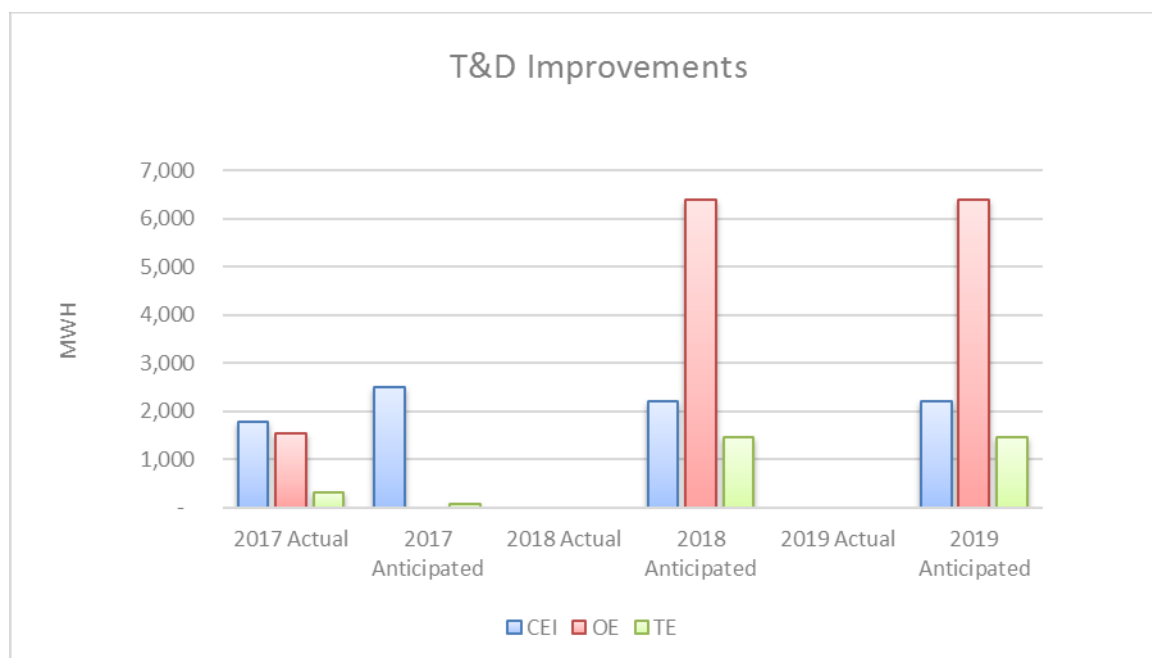
3.13 Transmission and Distribution²⁴

Past and present transmission and distribution infrastructure improvement projects are filed in accordance with Commission rules, with savings calculated based on pre-project and post-project electrical system parameters using a load flow analysis tool. Key activities for this program consist of projects such as:

- Re-conductoring of lines;
- Substation improvements;
- Adding capacitor banks; and
- Replacement of regulators.

²³ Mercantile Customer trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies' December 9, 2016 Stipulation and Recommendation, prior to any opt out adjustments.

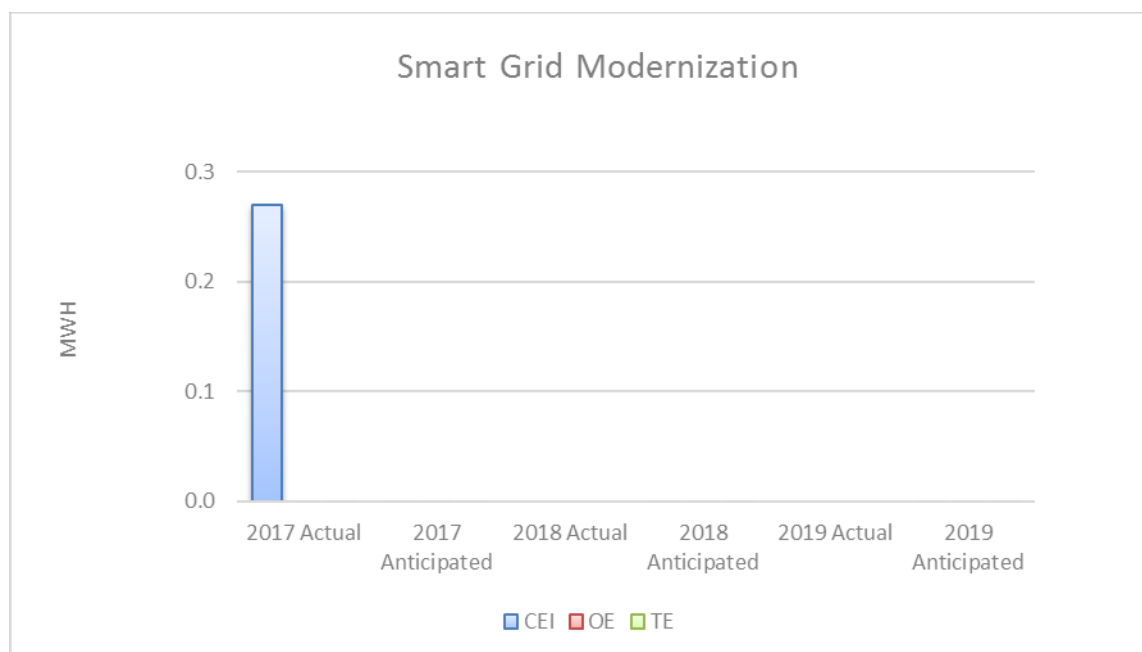
²⁴ Pursuant to O.A.C. 4901:1-39-05 (C)(2)(iv), the Companies have submitted a description of pending transmission and distribution infrastructure improvements made by the electric utilities during 2017 in Case Nos. 18-0844-EL-EEC, 18-0845-EL-EEC, and 18-0846-EL-EEC.

Table 4-12: Transmission and Distribution Trend Analysis²⁵

3.14 Smart Grid Modernization Initiative

The Companies' Smart Grid Modernization Initiative ("SGMI") Ohio Site Deployment included three smart grid technologies: automated meters, distribution automation, and volt/var controls. Although the Department of Energy funding period ended June 1, 2015, the Companies have a commitment to the Public Utilities Commission of Ohio to continue to annually report on the distribution automation and volt/var control information through June 1, 2019. In addition, as a result of the Order in Case 09-1820-EL-ATA, the Companies will continue to offer Rider RCP to non-shopping customers in the Ohio Site Deployment footprint on a limited basis (up to 250 customers). Rider RCP is a time-of-use rate with critical peak pricing periods. Customers on the rider receive day-ahead notification of the critical peak events and could receive up to 15 notifications during the summer period.

²⁵ Transmission and Distribution trend analysis compares gross MWh savings to anticipated MWh savings as filed in the Companies' December 9, 2016 Revised EEPDR Program Plans.

Table 4-13: Smart Grid Modernization Trend Analysis²⁶

3.15 Energy Special Improvement District

Pursuant to R.C. 1710.061, townships and municipalities may create Energy Special Improvement Districts that offer Property-Assessed Clean Energy (PACE) financing to their constituents to install energy improvements. Consistent with this statute, the Companies may include resulting savings toward its compliance with the energy efficiency and peak demand reduction requirements of Section [4928.66](#) of the Revised Code. This program did not have any savings in 2017²⁷.

²⁶ Smart Grid Modernization trend analysis shows gross MWh savings achieved during the reporting period. The Companies did not anticipate specific MWh energy efficiency savings from the Smart Grid Modernization Program as part of their 2017-2019 EEPDR Plans.

²⁷ A trend analysis is not applicable to this program as no energy efficiency savings were anticipated in the Companies' EEPDR Plan nor are any MWh energy efficiency savings being claimed as part of this program.

4 Summary of Evaluation, Measurement and Verification Reports

Pursuant to Rule 4901:1-39-05(C)(2)(b), an EDU must include an EM&V report that documents “the energy savings and peak-demand reduction values and the cost-effectiveness of each energy efficiency and demand-side management program reported in the electric utility’s portfolio status report,” including (i) “documentation of any process evaluations and expenditures”; (ii) “measured and verified savings”; and (iii) the “cost-effectiveness of each program.” In addition, the EM&V reports include surveys of those trade allies and customers who participated in the programs. The TRC test as performed by the EM&V Contractor, ADM Associates, Inc., is included in Appendix C. The EM&V Report must confirm that the measures were actually installed, the installation meets reasonable quality standards, and the measures are operating correctly and are expected to generate the predicted savings. Unless otherwise noted in evaluation reports, EM&V was generally conducted consistent with Ohio’s Technical Reference Manual. For complete details on how EM&V was conducted, see the applicable reports included as Appendices F-L.²⁸

5 Conclusion

The Companies each achieved all EE and PDR statutory requirements for 2017.

²⁸ These EM&V reports were prepared consistent with a template provided to the Companies in February, 2011, by the Commission’s EM&V consultant.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

5/15/2018 4:30:04 PM

in

Case No(s). 18-0841-EL-EEC, 18-0842-EL-EEC, 18-0843-EL-EEC

Summary: Annual Report Energy Efficiency and Peak Demand Reduction Program Portfolio Status Report to the Public Utilities Commission of Ohio electronically filed by Mr. Joshua R. Eckert on behalf of Ohio Edison Company and The Cleveland Electric Illuminating Company and The Toledo Edison Company