Company Exhibit _____

BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company For Approval of Their Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2017 through 2019	)))))))	Case No. 16-0743-EL-POR

DIRECT TESTIMONY OF

EDWARD C. MILLER

ON BEHALF OF

OHIO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
THE TOLEDO EDISON COMPANY

INTRODUCTION AND BACKGROUND

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION.

A. My name is Edward C. Miller, and my business address is 800 Cabin Hill Drive, Greensburg, PA 15601. I am employed by FirstEnergy Service Company as Manager, Compliance & Development in the Energy Efficiency Department.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING TODAY?

A. I am testifying on behalf of Ohio Edison Company ("Ohio Edison"), The Cleveland Electric Illuminating Company ("CEI"), and The Toledo Edison Company ("Toledo Edison") (the "Companies"). Unless otherwise stated, my testimony applies equally to all three Companies. Throughout my testimony, I refer to sections included in each of the Companies' Energy Efficiency ("EE") and Peak Demand Reduction ("PDR") Portfolio Plans ("Proposed Plans") that are attached to the Application being filed in this matter as Attachment A. Rather than reiterate in my testimony the details of the sections to which I refer, I am incorporating these sections by reference as part of my direct testimony.

Q. WHAT IS YOUR PROFESSIONAL AND EDUCATIONAL BACKGROUND?

A. I hold a Bachelor of Science degree in Electrical Engineering from the University of Pittsburgh. For over seventeen years, I was employed by Allegheny Energy Service Corporation, the service company for Allegheny Energy Inc. ("Allegheny"), which merged in 2011 with FirstEnergy Corp. ("FirstEnergy"). While with Allegheny, I held various engineering, customer service and management positions in Customer Services, Sales & Marketing, Customer

Management and Energy Efficiency Departments. After FirstEnergy and Allegheny merged, I was assigned my current position as Manager, Compliance & Development in the Energy Efficiency Department.

Q. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES.

A. I am responsible for development and compliance activities related to EE and PDR programs for the FirstEnergy utilities in, Maryland, Ohio, Pennsylvania and West Virginia. My role primarily involves the development of programs and filings to meet the FirstEnergy utilities' EE and PDR requirements and obligations in the various states. I report to the Director, Compliance and Reporting in the Energy Efficiency Department.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE MOST RELEVANT TO THE TESTIMONY YOU ARE PROVIDING IN THIS PROCEEDING.

A. Between 2009 and the FirstEnergy-Allegheny merger in 2011, I was involved in the development of EE and PDR programs and filings for the utilities formerly owned by Allegheny in Maryland, Pennsylvania, and West Virginia. Since completion of the merger, I have been involved in the same activities for the FirstEnergy utilities in Maryland, Ohio, Pennsylvania, and West Virginia. I was responsible for the design of the programs included in the Companies' 2013-2015 EE and PDR plans, overseeing the team that designed and developed those plans. I have the same responsibilities related to the Proposed Plans in this proceeding. I was significantly involved in the development of the Companies' Proposed Plans and was responsible for the modeling and design of the programs included in the

Proposed Plans. In fulfilling my responsibilities, I collaborate with stakeholders in the states we provide EE and PDR programs and with energy efficiency consultants who assist the Companies with program design, implementation, and the evaluation, measurement and verification ("EM&V") and tracking and reporting of programs.

Q. HAVE YOU PREVIOUSLY TESTIFIED AT THE PUBLIC UTILITIES COMMISSION OF OHIO?

A. Yes. I testified on similar topics in the Companies' previous EE/PDR Portfolio Plan case, Case Nos. 12-2190-EL-POR, *et al.* I have also testified before regulatory commissions in Pennsylvania, West Virginia and Maryland on EE and PDR matters.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to: (i) provide an overview of the Companies and their EE and PDR requirements; (ii) summarize and sponsor the Companies' Proposed Plans; (iii) describe the development of the Companies' Proposed Plans; and (iv) analyze whether the Proposed Plans comply with the Commission's rules regarding the Total Resource Cost ("TRC") test threshold. I also discuss the Companies' request for certain waivers and the procedural schedule proposed in the Application.

THE COMPANIES AND THEIR EE/PDR REQUIREMENTS

Q. PLEASE GENERALLY DESCRIBE THE FIRSTENERGY CORPORATE STRUCTURE AS IT RELATES TO STATE REQUIREMENTS TO IMPLEMENT EE/PDR PROGRAMS.

A. FirstEnergy is a diversified energy company headquartered in Akron, Ohio. Among its subsidiaries are ten electric utility subsidiaries – Ohio Edison, CEI and Toledo Edison in Ohio, four electric distribution utilities in Pennsylvania (Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company), Jersey Central Power and Light Company in New Jersey, Monongahela Power Company in West Virginia and The Potomac Edison Company in both West Virginia and Maryland. These ten electric utility operating companies comprise one of the nation's largest investor-owned electric systems, based on six million customers served within a nearly 65,000 square-mile area of Ohio, Pennsylvania, New Jersey, West Virginia and Maryland. One of FirstEnergy's objectives is to develop cost effective EE and PDR plans to meet their requirements or commitments that can, when appropriate, be consistently applied not only in Ohio, but also in the other states within the FirstEnergy footprint. This approach enables FirstEnergy customers to benefit from economies of scale and broader program experiences.

Q. PLEASE GENERALLY DESCRIBE THE COMPANIES.

A. The Companies are each a wholly-owned subsidiary of FirstEnergy. Ohio Edison provides service to approximately one million electric utility customers in central and northeastern Ohio; CEI, approximately 750,000 customers in and around the

Cleveland area; and Toledo Edison, approximately 310,000 customers in northwest Ohio.

Q. PLEASE DESCRIBE THE HISTORY OF THE COMPANIES' EE/PDR PLANS.

A. In Ohio, under Section 4928.66, Revised Code, the Companies are obligated to implement energy efficiency and peak demand reduction programs to achieve certain benchmarks. From 2009 to 2014, the Companies' EE and PDR benchmarks increased annually. In Case Nos. 12-2190-EL-POR, *et seq*., the Companies filed an application for approval of their EE/ PDR portfolio plans for the years 2013-2015, which was approved by the Commission on March 20, 2013 ("Previous EE/PDR Portfolio Plans").

On September 12, 2014, Substitute Senate Bill Number 310 ("S.B. 310") went into effect. S.B. 310 amended Section 4928.66, Revised Code, which, among other things, amended the Companies' cumulative EE and PDR benchmarks to 2014 levels for 2015 and 2016 and permitted electric distribution utilities ("EDUs") in Ohio to amend their existing EE/PDR portfolio plans. On September 24, 2014, the Companies filed an application to amend their existing EE/PDR portfolio plans, which was approved on November 20, 2014 ("Amended EE/PDR Portfolio Plans"). The Companies have been operating under the Amended EE/PDR Portfolio Plans for 2015 and 2016. Hereinafter, the Companies' Previous EE/PDR and Amended EE/PDR Portfolio Plans are collectively referred to as "Prior Plans."

Q. WHAT EE AND PDR REQUIREMENTS APPLY TO THE COMPANIES?

A. As indicated above, S.B. 310 amended the Companies' cumulative EE and PDR benchmarks to 2014 levels for 2015 and 2016. S.B. 310 also provided that in 2017, the EE and PDR benchmarks would re-commence. Company Witness Mullins discusses in her testimony the Companies' EE and PDR benchmarks included in the Proposed Plans that are the subject of this proceeding.

The Companies also agreed to implement certain resource diversification mechanisms/programs related to EE and PDR in their Stipulated Fourth Electric Security Plan case filed in Case No. 14-1297-EL-SSO ("Stipulated ESP IV"), which the Commission approved on March 31, 2016. Those provisions include: (i) reactivation of all programs suspended in the Companies' Amended EE/PDR Portfolio Plans;[1] (ii) expansion of offerings to include best practice ideas from utility peers in Ohio and nationally;[2] and (iii) robust EE/PDR portfolio plan offerings to strive to achieve over 800,000 MWh savings annually subject to customer opt-outs.[3] The Companies' Proposed Plans meet the EE and PDR provisions of the Stipulated ESP IV that were approved by the Commission.

Q. HOW WILL THE COMPANIES RECOVER COSTS ASSOCIATED WITH THE PROPOSED PLANS?

A. The Companies will recover costs associated with the Proposed Plans through their respective Riders DSE, which were already approved by the Commission.

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[1] Case No. 14-1297-EL-SSO, Third Supplemental Stipulation and Recommendation at Section E III (a) (December 1, 2015) ("Third Supplemental Stipulation").
[2] *Id.*
[3] *Id.* at Section E 3 (b).

The Companies are not proposing any changes to this approved cost recovery mechanism in this proceeding.

OVERVIEW OF THE COMPANIES' PROPOSED PLANS

Q. IN GENERAL, WHAT DO THE PROPOSED PLANS INCLUDE?

A. The Commission's rules direct that an EE/PDR portfolio plan include a range of programs that encourage innovation and market access for cost-effective EE and PDR for all customer classes. The Commission's rules require, among other things, that the EE/PDR portfolio plan describe the following: (i) an assessment of potential reductions from EE and PDR programs; (ii) stakeholder participation in plan development; (iii) attempts to align and coordinate programs with other utilities' programs; (iv) the existing programs; and (v) proposed programs. The Proposed Plans address each of these areas.

The Companies also performed a benchmark assessment that updates their benchmark report submitted as part of their Amended EE/PDR Portfolio Plans in Case Nos. 12-2190-EL-POR, *et seq* for the period January 2010 through December 2015 which was updated for this filing through December 2019. The energy and demand baselines and associated statutory benchmarks are described in the Direct Testimony of Company Witness Mullins and also in Section 1.1 and Tables 1-3 of the Companies' Proposed Plans. A Market Potential Study was commissioned through Harbourfront Group, Inc. ("Harbourfront") and is included in Appendix D of the Proposed Plans. Company Witness Fitzpatrick discusses the study in his testimony.

SUMMARY OF THE COMPANIES' PROPOSED PLANS

Q. PLEASE SUMMARIZE THE KEY FEATURES AND IMPLICATIONS OF THE COMPANIES' PROPOSED PLANS.

A. Each of the Companies' Proposed Plans include a portfolio of EE and PDR programs that are designed to achieve results that will either meet or exceed the statutory benchmarks established in Section 4928.66, Revised Code for the period starting January 1, 2017 through December 31, 2019 ("Plan Period") and to meet the EE and PDR provisions of the Stipulated ESP IV. Collectively, the proposed programs provide significant opportunities for energy and cost savings for the Companies' customers and for the Companies to meet or exceed their statutory EE and PDR benchmarks and provisions of the Stipulated ESP IV in a cost effective manner. Like the Companies' Prior Plans, the Proposed Plans include a portfolio of energy efficiency programs targeted to a variety of customer segments, including: (i) Residential-Low Income; (ii) Residential-Other; (iii) Small Enterprise; (iv) Mercantile-Utility; and (v) Governmental. Each of the Proposed Plans passes the TRC test on a portfolio basis. Each of the Proposed Plans includes components reflected in the Companies' Previous EE/PDR Portfolio Plans and comply with the EE and PDR provisions of the Stipulated ESP IV. The Companies have also expanded offerings and made changes in an effort to provide customers with more opportunities for energy and related cost savings and the Companies with more implementation flexibility to improve their ability to meet the EE and PDR benchmarks. For example, many of the programs include new measures and expanded end-uses, which enhance the program offerings to the Companies' customers. Similar to the Companies' Prior Plans, the Proposed Plans also are similar in design and format to FirstEnergy's other utilities outside of Ohio which allow the Companies to continue to: (i) capitalize on the economies of scale and synergies created through common plan administration and program implementation activities; (ii) simplify EM&V and program performance evaluations; and (iii) streamline program tracking and reporting, which collectively contributes to lower overall administrative costs.

DEVELOPMENT OF THE PROPOSED PLANS

Q. PLEASE DESCRIBE GENERALLY HOW THE COMPANIES SELECTED THE PROGRAMS, SUB-PROGRAMS AND MEASURES FOR INCLUSION IN THE PROPOSED PLANS.

A. Sections 1 and 3 of the Proposed Plans describe how the Proposed Plans were developed. Generally, in order to establish a universe of programs and measures for consideration, the Companies: (i) reviewed the existing programs, sub-programs and measures in the Companies' Prior Plans; (ii) identified other potential programs and measures from reviewing program ideas and best practices from utility peers in Ohio and nationally, including the programs and measures suggested by interested parties representing various stakeholders that participated in the Companies' Ohio Stakeholder Collaborative Group ("Collaborative Group") and; (iii) experience from implementation and EM&V of the Prior Plans and affiliate programs in other jurisdictions. The Companies completed preliminary modeling taking into account: (i) implementation experience; (ii) program costs; (iii) the Ohio Technical Reference Manual ("TRM") and

Pennsylvania TRM, and databases or other industry information that support energy efficiency programs in other jurisdictions; (iv) the 2016 Market Potential Study conducted by Harbourfront; (v) the Avoided Transmission and Distribution ("T&D") Cost Study[4] and; (vi) other sources identified in Appendix C-1 of the Proposed Plans. The 2016 Market Potential Study is attached to the Proposed Plans as Appendix D. Once all programs were designed and modeled, the Proposed Plans as a whole were evaluated to balance results and costs to ensure the reasonableness of the Proposed Plans and compliance with statutory benchmarks and the EE and PDR provisions of the Stipulated ESP IV in a cost effective manner. Based on the results of the preliminary modeling and the 2016 Market Potential Study, after additional review by the Companies and the Collaborative Group, the Companies finalized program design and modeling assumptions for the Proposed Plans.

Q. PLEASE DESCRIBE THE ENERGY EFFICIENCY ORGANIZATION AND ITS ROLE IN THE DEVELOPMENT OF THE PLANS.

A. The Energy Efficiency Department is made up of more than 50 employees with a broad spectrum of skills. This group is responsible for ensuring compliance with all state and federal EE and PDR requirements and the successful implementation of EE and PDR programs offered throughout the FirstEnergy utilities' service territories. This group also are responsible for tracking and reporting EE and

[4] Completed to comply with the Commission Order in Case Nos. 12-2190-EL-POR, *et seq.* issued March 20, 2013, at page 12.

PDR results to management and as required by the various state regulatory agencies. A more detailed description of this group, as well as an organization chart, is included in Section 5.2 of the Proposed Plans.

The Compliance and Development Team is a subgroup within the Energy Efficiency Department which is primarily responsible for the development of not only the Proposed Plans, but also other EE/PDR plans offered by the Companies' sister utilities in other states. When practical, this group designs programs consistently throughout the FirstEnergy service territories in order to create economies of scale in both program administration and measurement and verification activities. When designing EE/PDR plans, this group relies not only on its expertise and experience, but also on the experience and expertise brought by our consultants, including Harbourfront, the Companies' EM&V consultant ADM Associates, Inc. ("ADM"), and the Companies' Tracking and Reporting vendor Applied Energy Group ("AEG").

Q. PLEASE EXPLAIN THE OUTSIDE CONSULTANTS' ROLES IN THE DEVELOPMENT OF THE PLANS.

A. Rule 4901:1-39-03(A), Ohio Administrative Code requires the Companies to assess the market potential for EE and PDR programs prior to submitting the Proposed Plans. The Companies retained the services of Harbourfront for this purpose. Company Witness Fitzpatrick explains in his testimony the process used to develop the market potential study and the results derived from the 2016 Market Potential Study. In an effort to gain a broader perspective, the Companies also reviewed details of the programs included in the Proposed Plans with other consultants drawing on their expertise and experience in the industry both to solicit input into the Proposed Plans and program designs, as well as to ensure reasonableness of the Proposed Plans and projections.

Q. PLEASE DESCRIBE THE COLLABORATIVE PROCESS USED BY THE COMPANIES DURING THE DEVELOPMENT OF THE PROPOSED PLANS.

A. The Collaborative Group was established prior to the Companies submitting their first EE/PDR Plans back in 2009. One of the Companies' primary goals during the development process of the Proposed Plans was to improve our relationship with the Collaborative Group and to ensure that members recognized that they were a valuable part of the process. The Companies specifically solicited input from and openly shared their thoughts on the programs and measures being considered for the Proposed Plans with the Collaborative Group on February 9, 2016. Another update on development of the Proposed Plans including draft programs, projections and the development of the 2016 Market Potential Study was discussed in further detail during the Collaborative Group meeting held on March 22, 2016. At each of the meetings the Companies solicited input and suggestions from the Collaborative Group on the Proposed Plans. Based on feedback received from the Collaborative Group, the Proposed Plans were designed to reflect many of the suggestions received. Some examples are: greater focus on LED lighting; inclusion of hot water circulating pumps in the residential and small enterprise sectors; small business direct install; and analytics-enabled energy efficiency recommendations.

Q. DO THE PLANS SATISFY THE FILING REQUIREMENTS IN THE COMMISSION'S RULES FOR A PROGRAM PORTFOLIO PLAN?

A. Yes. In Rule 4901:1-39-04(C), Ohio Administrative Code, the Commission set forth the information required to be included in the Proposed Plans:

(1) An executive summary can be found in Section 1 of the Proposed Plans and the 2016 Market Potential Study attached as Appendix D to the Proposed Plans;

(2) A description of stakeholder participation in program planning development efforts is described above, and in Section 3.1.5 of the Proposed Plans;

(3) A description of efforts to coordinate programs with other public utility programs is described in Section 3.1.6 of the Proposed Plans;

(4) A description of existing programs is included in Sections 2 and 3 of the Proposed Plans; and

(5) A description of proposed programs is included in Sections 2 and 3 of the Proposed Plans.

Q. HOW DO THE PROPOSED PLANS DIFFER FROM THE TEMPLATE BEING CONSIDERED BY THE COMMISSION?

A. The Commission's proposed template describes seven "customer classifications:" Residential, Residential Low-Income, Small Enterprise, Mercantile Self-Directed, Mercantile-Utility, Government & Nonprofit and Transmission & Distribution. As the Companies explained in their September 11, 2009 comments submitted in Case No. 09-714-EL-UNC, the Companies' customer accounting systems do not track customer data in the manner needed to conform reporting precisely to these classifications. Company Witness Mullins describes in her testimony how forecasted usage and costs, respectively, have been allocated to customer sectors in a format intended to most closely resemble the draft template's classifications. In an effort to minimize costs to customers by avoiding the need to modify accounting and billing systems and reclassify rate schedules to fit within the seven proposed categories, the Companies utilized the same format in the Proposed Plans as they used in the Previous EE/PDR Portfolio Plans. Moreover, such an approach retains consistency between the Previous EE/PDR Portfolio Plans and Proposed Plans. For these reasons, the Companies have asked the Commission for a waiver of any rules to the degree any such rules would require information included in the Proposed Plans to be presented in a format different from how it is presented in those plans.

Q. HOW MANY MEASURES DID THE COMPANIES EVALUATE WHEN DEVELOPING THE PROPOSED PLANS?

A. The Companies used a wide reaching process to identify and consider over 100 distinct EE and PDR measures for inclusion in the Proposed Plans, including many measures suggested by the Collaborative Group.

Q. HOW MANY MEASURES DID THE COMPANIES ULTIMATELY INCLUDE IN EACH OF THE PROPOSED PLANS?

A. 92 distinct measures were ultimately included in the Companies' Proposed Plans, many of which are included in multiple programs targeting different customer sectors. Each of the Company's Proposed Plans provide details of each of the included measures.

Q. WHAT PROGRAMS, SUB-PROGRAMS AND MEASURES DID THE COMPANIES CONSIDER, BUT NOT INCLUDE IN THE PROPOSED PLANS?

A. The following measures were specifically considered but were not included in the Proposed Plans primarily due to implementation barriers, questionable or limited participation or savings estimates, historical results and/or costs:

- Clothes Washer Recycling;
- Set Top Boxes;
- Pool Pump Motors;
- Pool Pump Load Shifting;
- Behavioral Demand Response;
- Portable Hot Tubs;
- Dishwashers;
- Water Coolers;
- Induction Cooking Appliances;
- Air Purifier/Cleaner;
- Whole House Fan;
- Faucet Controls;
- Kettle Cookers; and
- Motors – Single Phase.

Also, the Companies designed programs with the flexibility to incorporate various types of custom projects and measures so as to provide implementation flexibility and accommodate multiple programs or measures that may have limited application or variable energy efficiency impacts based on application specifics. Accordingly, specific application or end-use programs and measures that are not established as a specific program or measure in the Proposed Plans are eligible as a custom measure under the Companies' Energy Solutions for Business Programs – Small and Large, subject to program eligibility guidelines. These types of projects and measures may also be eligible for the Mercantile Customer Program. During the Plan Period, the Companies will regularly evaluate the programs and program participation to evaluate whether changes should be made to existing programs or whether certain programs and measures should be modified to include measures originally considered but not included. The Companies will discuss these opportunities periodically with the Collaborative Group as they are identified.

<u>THE PROPOSED PLANS</u>

Q. WHAT PROGRAMS ARE THE COMPANIES PROPOSING?

A. Each of the programs included in the Proposed Plans are described in detail in Section 3 of the Proposed Plans. The Proposed Plans also detail the scope and benefits of the various energy efficiency and peak demand reduction programs for which the Companies seek Commission approval. As I previously mentioned, the Companies' Proposed Plans leverage the programs in the Prior Plans, as well as offer numerous new measures targeting expanded end-uses, thus providing customers more opportunities to participate in the program offerings and providing the Companies with more opportunities to meet their EE and PDR benchmarks and provisions of the Stipulated ESP IV. Table 4 of the Proposed Plans show how the programs included in the Prior Plans have been consolidated into the new programs included in the Proposed Plans.

Q. WHAT RESIDENTIAL PROGRAMS ARE THE COMPANIES PROPOSING?

A. The Companies' residential programs are described in Table 6 and Section 3.2 of the Proposed Plans. First, the Companies request that the Commission approve the following residential programs that the Companies have implemented and have not changed from the Amended EE/PDR Portfolio Plans:

- **Customer Action Program (CAP) –** a continuation of the existing program. CAP captures energy savings and peak demand reductions achieved through actions taken by customers outside of utility-administered programs pursuant to Section 4928.662, Revised Code.
- **Direct Load Control Program. –** a continuation of the existing program which controls residential customers' air conditioning by cycling usage during peak demand periods.

Second, the Companies request approval of the following residential programs that the Companies have changed from either the Previous or Amended EE/PDR Portfolio Plans as discussed below:

- **Appliance Turn-In Program** – a reactivation of the program from the Previous EE/PDR Portfolio Plans with the following change:

- Added dehumidifiers.

- **Energy Efficient Homes Program -** a reactivation of the "Home Performance Program" from the Previous EE/PDR Portfolio Plans with the following changes:
  - Increased focus on LEDs for both EE Kits and School Education;
  - Added a Smart Thermostat sub-program that will deploy advanced smart thermostats to optimize operation of customer HVAC equipment;
  - Added manufactured homes to the New Homes sub-program; and
  - Expanded the Audits sub-program to target multi-family residences and manufactured homes.

- **Energy Efficient Products Program** - a reactivation of the program from the Previous EE/PDR Portfolio Plans with the following changes:
  - Added efficient clothes dryers to the Appliances sub-program;
  - Added imaging equipment and emerging home technologies to the Consumer Electronics sub-program;
  - Increased focus on LEDs and added lighting controls to the Lighting sub-program; and
  - Added packaged terminal heat pumps ("PTHP"), air conditioners ("PTAC"), circulation pumps and programmable/smart thermostats to the HVAC sub-program.

- **Low Income Energy Efficiency Program –** an expansion of the "Low Income Program" from the Amended EE/PDR Portfolio Plans to include two sub-programs as follows:
  - Continuation and expansion of the Community Connections program as a sub-program that will be administered by the Ohio Partners for Affordable Energy ("OPAE"), as approved in the Companies' Stipulated ESP IV; and
  - Added a Low-Income New Homes sub-program to encourage the construction of new energy efficient housing or major rehabilitation of existing housing in the low income sector through the application of building shell, installed measures, and other related building improvements.

Q. WHAT SMALL ENTERPRISE PROGRAMS ARE THE COMPANIES PROPOSING?

A. The Companies' small enterprise programs are described in Table 8 and Section 3.3 of the Proposed Plans. First, the Companies request that the Commission approve the following Small Enterprise program that the Companies have implemented and have not changed from the Amended EE/PDR Portfolio Plans:

- **Customer Action Program (CAP) –** a continuation of the existing program. CAP captures energy savings and peak demand reductions achieved through actions taken by customers outside of utility-administered programs pursuant to Section 4928.662, Revised Code.

Second, the Companies request approval of the following Small Enterprise programs that the Companies have changed from the Previous EE/PDR Portfolio Plans as discussed below:

- **C&I Energy Solutions for Business Program -Small** - a reactivation and consolidation of the C&I Energy Efficient Equipment Program - Small and the C&I Energy Efficient Buildings Program – Small. The following changes to the previous programs have been made:
  - Added circulation pumps to the HVAC sub-program;
  - Expanded program offering to include Smart Thermostats;
  - Increased focus on LED applications in the Lighting sub-program;
  - Added beverage machines to the Food Service sub-program;
  - Added dehumidifiers to the Appliance Turn-In sub-program;
  - Added efficient clothes dryers to the Appliances sub-program;
  - Added Consumer Electronics sub-program with new measures;
  - Added new sub-program and measures for Agricultural customers;
  - Added dedicated sub-program for the Data Center customer sector and for Retro – Commissioning;
  - Expanded audit offerings to include audits with direct install measures and multifamily audits; and
  - Expanded services provided under the Audits & Education sub-program to include energy manager, benchmarking, and

behavioral offerings to increase energy education and awareness.

Q. WHAT MERCANTILE-UTILITY (LARGE ENTERPRISE) PROGRAMS ARE THE COMPANIES PROPOSING?

A. The Companies' mercantile-utility (large enterprise) programs are outlined in Table 10 and Section 3.4 of the Companies' Proposed Plans. First, the Companies request that the Commission approve the following Large Enterprise programs that the Companies have implemented and have not changed from the Amended EE/PDR Portfolio Plans:

- **Demand Reduction Program –** a continuation of the existing program which captures demand reduction resulting from the Companies' Rider ELR as included in the Companies' Stipulated ESP IV; and from PJM participating demand resources or other contracted demand resources.[5]
- **Customer Action Program (CAP) –** a continuation of the existing program. CAP captures energy savings and peak demand reductions achieved through actions taken by customers outside of utility-administered programs pursuant to Section 4928.662, Revised Code.

Second, the Companies request approval of the following Large Enterprise program that the Companies have changed from the Previous EE/PDR Portfolio Plans as discussed below:

[5] Section 4928.662 (A), Revised Code "…*including resources associated with such savings or reduction that are recognized as capacity resources by the regional transmission organization operating in Ohio…shall count toward compliance with the energy efficiency and peak demand reduction requirements.*"

- **C&I Energy Solutions for Business Program -Large** - a reactivation and consolidation of the C&I Energy Efficient Equipment Program - Large and the C&I Energy Efficient Buildings Program – Large. The following changes to the previous programs have been made:
    - Added packaged terminal heat pumps ("PTHP") and air conditioners ("PTAC") to the HVAC sub-program;
    - Increased focus on LED applications in the Lighting sub-program;
    - Added dedicated sub-program for the Data Center customer sector and for Retro – Commissioning; and
    - Expanded services provided under the Audits & Education sub-program to include energy manager, benchmarking, and continuous improvement offerings to increase energy education and awareness.

Q. WHAT GOVERNMENT PROGRAMS ARE THE COMPANIES PROPOSING?

The Companies' government programs are outlined in Table 12 and Section 3.5 of the Proposed Plans. The Companies request approval of the Government Tariff Lighting Program, which is a reactivation of the Government Tariff Lighting Program from the Previous EE/PDR Portfolio Plans, which includes LED Traffic Signals and Street & Area Lighting, and a continuation of the Experimental Company-Owned LED Lighting Program, currently pending approval from the Commission in Case No. 16-0470-EL-ATA, from the Amended EE/PDR Portfolio Plans.

Q. ARE THE COMPANIES SEEKING APPROVAL FOR ANY OTHER PROGRAMS?

A. Yes, the Companies are also seeking approval of a new program - the Energy Special Improvement District. The Energy Special Improvement District ("ESID") is a program where Ohio townships and municipalities can create ESIDs to offer constituents Property Assessed Clean Energy ("PACE") financing to install qualified energy improvements, pursuant to Section 1710.061, Revised Code. This new program captures the energy savings from these improvements. The Companies will seek approval for inclusion of the savings associated with these projects through separate dockets. No costs associated with this program are included in the budgets set forth in the Proposed Plans.

Q. ARE THERE OTHER PROGRAMS INCLUDED IN THE PROPOSED PLANS THAT ARE ADDRESSED IN OTHER DOCKETS?

A. Yes, as discussed above, the Proposed Plans include the Community Connections sub-program that was approved in the Companies' Stipulated ESP IV and the LED Street lighting Tariff pending in another docket. The Proposed Plans also include the Mercantile Customer Program, the Transmission and Distribution ("T&D") Upgrades Program and the Smart Grid Modernization Initiative Program. These programs are included in the Proposed Plans as part of the Companies' strategy for compliance with statutory EE and PDR benchmarks. Because these programs are either permitted by statute, have already been approved by the Commission or will be included if approved by the Commission in separate dockets, with the exception of the administrative budget described below, no further approval is necessary in this docket.

Q. PLEASE DESCRIBE THESE PROGRAMS.

A. The Mercantile Customer Program is a continuation of the existing Mercantile Self-Direct program, only with a different name and reactivation of the rebate option. This program targets mercantile customer energy efficiency projects implemented from January 1, 2014 through the end of the Plan Period, incenting customers to commit their projects implemented prior to the Plan Period, or otherwise incenting them to invest in energy efficient projects during the Plan Period. Applications for approval of mercantile customer-sited projects are separately filed with the Commission in individual dockets with incentives paid to customers (and recovered by the Companies through the Companies' Riders DSE) or exemptions, both of which are approved in those individual dockets. Accordingly, the budgets set forth in the Proposed Plans do not include any costs for these incentives, but do include costs associated with the administration of this program.

Second, the Companies' existing T&D Program is continuing in the Proposed Plans, but under the new name – T&D Upgrades Program, which accumulates the savings achieved through various T&D projects. These projects involve various system improvements that, when made, reduce line losses, which result in a more efficient delivery system. The Companies seek approval for inclusion of the savings associated with these projects through separate dockets. The budgets set forth in the Proposed Plans do not include any costs for undertaking these projects, but do include costs associated with the administration of this program.

Third, the Smart Grid Modernization Initiative Program was approved in Case No. 09-1820-EL-ATA *et al.* and was part of the Department of Energy Smart Grid Investment Grant Program. The pilot program is studying the impact of smart grid technologies on the distribution system and includes Distribution automation ("DA"), Integrated Volt Var Controls ("IVVC") and Advanced Metering Infrastructure ("AMI") deployment in a 36-circuit area located in CEI's service territory. As part of the Stipulated ESP IV, the Companies committed to filing a Grid Modernization Business Plan that included various scenarios of additional AMI, DA and IVVC. Should the Companies receive approval for additional deployment of the smart grid technology, EE and PDR savings from that deployment would be included in this program. Information on the Grid Modernization Business Plan can be found in Case No 16-0481-EL-UNC. No costs associated with this program are included in the budget set forth in the Proposed Plans.

PROGRAM RESULTS, COSTS AND THE TRC TEST

Q. WHAT ARE THE BENCHMARKS FOR EACH OF THE COMPANIES?

A. According to Section 4928.66(A)(1)(a) and (b), Revised Code, the cumulative MWh and MW reduction benchmarks for the Companies are provided in Table 3 of the Proposed Plans.

Q. PLEASE SUMMARIZE THE LIFETIME COSTS AND BENEFITS RESULTING FROM EACH COMPANY'S PROPOSED PLAN.

A. PUCO Table 1 in Appendix C-4 of the Proposed Plans summarizes each Company's projected lifetime costs and benefits related to the Proposed Plans

Q. WHAT ARE THE PROJECTED EE AND PDR RESULTS EXPECTED FROM THE PROPOSED PLANS?

A. PUCO Table 2 in Appendix C-4 of the Proposed Plans provides the projected MW and MWh savings, on a cumulative basis, by customer sector that each Company's Proposed Plan is expected to produce during the Plan Period. Absent unforeseen events, or events beyond the Companies' control, each of the Proposed Plans is designed to comply with statutory targets as set forth in Section 4928.66, Revised Code and the EE and PDR provisions of the Stipulated ESP IV.

Q. PLEASE SUMMARIZE THE ANNUAL COSTS OF EACH COMPANY'S PROPOSED PLAN DURING THE PLAN PERIOD.

A. Appendix B-1 of the Proposed Plans provide the estimated costs of the Proposed Plans and programs by year and in total for each Company. For the proposed programs and measures, the Companies projected costs by relying on actual pricing under the Prior Plans, pricing for common program offerings from other jurisdictions in which FirstEnergy subsidiaries have EE and PDR programs in place, or other estimations. The Companies' administrative and other program operations costs are similarly based on actual costs or internal estimations. The Companies will recover their costs through their respective Riders DSE, which were already approved by the Commission.

Q. WHAT IS THE TRC TEST?

A. As provided by Rule 4901:1-39-01(Y), Ohio Administrative Code:

> "Total resource cost test" is an analysis to determine if, for an investment in energy efficiency or peak-demand reduction measure or program, on a life-cycle basis, the present value of the avoided supply costs for the periods of load reduction, valued at marginal cost, are greater than the present value of the monetary costs of the demand-side measure or program borne by both the electric utility and the participants, plus the increase in supply costs for any periods of increased load resulting directly from the measure or program adoption. Supply costs are those costs of supplying energy and/or capacity that are avoided by the investment, including generation, transmission, and distribution to customers. Demand-side measure or program costs include, but are not limited to, the costs for equipment, installation, operation and maintenance, removal of replaced equipment, and program administration, net of any residual benefits and avoided expenses such as the comparable costs for devices that would otherwise have been installed, the salvage value of removed equipment, and any tax credits.

Rule 4901:1-39-04(B), Ohio Administrative Code requires each electric utility to demonstrate that its program portfolio plan is cost effective on a portfolio basis.

Q. DO EACH OF THE PROPOSED PLANS PASSES THE TRC TEST?

A. Yes**.** As demonstrated in PUCO Table 1 and PUCO Tables 7(A)-(G) included in Appendix C-4 of the Proposed Plans, each of Proposed Plans passes the TRC test on a portfolio basis. While the TRC test results vary by sector and program, the overall Proposed Plan for each Company achieves a TRC greater than 1.0.

PROPOSED PROCEDURAL SCHEDULE

Q. ARE THE COMPANIES PROPOSING A PROCEDURAL SCHEDULE IN THE APPLICATION FILED IN THIS PROCEEDING?

A. Yes. Instead of the sixty-day objection period allowed by the Commission's rule in Rule 4901:1-39-04(D), Ohio Administrative Code, the Companies are asking that all objections be filed within forty-five (45) days. Also, given that the Collaborative Group has already seen the programs, measures, preliminary budget and savings projections from the Proposed Plans, shortening this time period is reasonable. Moreover, the shortening of this time period will provide a reasonable procedural schedule that will allow the evidentiary hearings to be completed by mid-July, similar to the timeline followed with the Previous EE/PDR Plans.

Q. **WHY ARE THE COMPANIES REQUESTING THAT THE EVIDENTIARY HEARINGS BE COMPLETED BY THE MID- JULY?**

A. There are several reasons. First, the procedural schedule proposed by the Companies is reasonable given the fact that: (i) the Proposed Plans are generally extensions of the Prior Plans, only with additional measures, many of which were requested by members of the Collaborative Group; (ii) the Companies have, on several occasions, already discussed with the Collaborative Group the program and measure mix that they intended to include in the Proposed Plans; (iii) the Companies have already provided an overview of the Proposed Plans; and (iv) the Companies are offering to host a technical workshop after all parties have had time to review the Proposed Plans after filing so as to provide interested parties with an opportunity to ask questions and gain a better understanding of how calculations were made, and how results were derived. Given the need for a mandatory evidentiary hearing as required by Rule 4901:1-39-04(E), Ohio Administrative Code, the Companies believe that the shortening of the objection period by two weeks will allow the Commission sufficient time in which to issue an order in a time frame that allows the Companies to finalize contracts with various program vendors and to begin program implementation of the approved Proposed Plans on January 1, 2017. If the Commission does not issue an order by September 30, 2016, program implementation may be delayed after January 1, 2017.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does. However, I reserve the right to supplement my testimony