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BEFORE THE



PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Application of Duke Energy Ohio, Inc., for an Energy Efficiency Cost Recovery Mechanism and for Approval of Additional Programs for Inclusion in its Existing Portfolio.

Case No. 11-4393-EL-RDR

DUKE ENERGY OHIO, INC.'S APPLICATION FOR COST RECOVERY MECHANISM AND PROGRAM APPROVAL

I. Introduction

Now comes Duke Energy Ohio, Inc, (Duke Energy Ohio) pursuant to 401:1-39-07, Ohio Administrative Code (O.A.C.) and submits a proposed cost recovery mechanism for its energy efficiency compliance programs and portfolio. Duke Energy Ohio is an electric distribution utility as defined in R.C. 4928.01 (A)(6), and is therefore required by R.C. 4928.66, et seq., to implement energy efficiency and peak demand reduction programs designed to achieve energy savings of at least three-tenths of one percent of its total annual average and normalized kilowatthour sales during the preceding three calendar years to customers in this state. In 2008, Duke Energy Ohio submitted an energy efficiency portfolio and cost recovery mechanism to the Public Utilities Commission of Ohio (Commission) for its approval in Case No. 08-90-EL-SSO, et al. The Parties to that case resolved most of the issues raised in the Company's application by agreeing to a Stipulation and Recommendation, which the Commission subsequently adopted and approved in its Opinion and Order. The Company's energy efficiency proposal in that case

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included a novel cost recovery mechanism known as save-a-watt and a portfolio of programs. This mechanism and the programs took effect with the Company's electric security plan, January 1, 2009 and were effective through December 31, 2011. Subsequent to the Commission's Order in that case, the Commission enacted rules to facilitate compliance with the state's mandate for energy efficiency. Then, in December of 2009, in order to comply with newly enacted rules, Duke Energy Ohio resubmitted its energy efficiency portfolio for approval under 4901:1-39-04, O.A.C. The Company did not request approval of a new cost recovery mechanism at that time since its cost recovery mechanism had already been agreed upon and approved by the Commission in its ESP case. Thus, the Company's save-a-watt recovery mechanism is due to end on December 31, 2011 and the Company is now proposing a new recovery mechanism. Additionally, with this Application, the Company seeks approval pursuant to 4901:1-39-04, for some new programs to include in its existing portfolio. These programs were introduced to the Duke Energy Community Partnership Energy Efficiency Collaborative (Collaborative) on June 15, 2011. Duke Energy Ohio proposes herein a new cost recovery mechanism to recover program costs and lost revenue associated with energy efficiency and peak demand reduction undertaken by its customers. In support of its Application, the Company is providing testimony addressing the following: Company witness Timothy J. Duff will provide an overview of the Application and the relevant incentive and recovery mechanism. Company witness Ashlie J. Ossege will describe the details of the newly proposed programs with respect to cost effectiveness and measurement and verification of outcomes. Company witness Casey Mather will explain programs and customer engagement. Company witness Kevin A. Bright will

discuss commercial program implementation, and Company witness James E. Ziolkowski will testify concerning revenue requirements and rate implementation.

II. The Proposed Cost Recovery Mechanism

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As noted above, Duke Energy Ohio's existing cost recovery mechanism will end as of December 31, 2011. Also, the Company has submitted a new electric security plan to the Commission for its approval in Case No. 11-3549-EL-SSO. To begin its energy efficiency and peak demand reduction compliance in 2012, the Company proposes to recover its costs in Rider EE-PDR. This rider is designed to recover program costs associated with each program and an incentive in the form of a percentage of the avoided cost benefits realized.

III. The Proposed New Programs for Inclusion in the Company's Existing Portfolio

Duke Energy Ohio has a long history of successful energy efficiency and has been a leader in the industry with respect to energy efficiency and peak demand reduction programs, having offered such programs since 1992. Its existing portfolio of programs was approved by the Commission in Case No. 09-1999-EL-POR on December 15, 2010. In its Opinion and Order in that case, the Commission noted that Duke Energy Ohio's portfolio was reasonably calculated to achieve energy efficiency, consistent with the requirements of state energy policy as articulated in Section 4928.66, Ohio Revised Code. Duke Energy Ohio does not propose in this Application to modify any of its existing programs, but rather to supplement its portfolio.

The following programs will continue as part of the Company's portfolio. As the Company is proposing a new cost recovery mechanism associated with these programs, new cost information is provided for each program and supported by the testimonies of Company witnesses Duff, Ossege, Mather, Ziolkowski and Bright.

1. Smart \$aver[®] Residential

- 2. Residential Energy Assessments
- 3. Home Energy Comparison Report
- 4. Energy Efficiency Education Program for Schools
- 5. Low Income Services
- 6. Power Manager
- 7. Smart \$aver[®] Non Residential
- 8. Non Residential Energy Assessments
- 9. PowerShare[®]

In this Application, the Company is proposing the following new programs for inclusion in its Portfolio. Information related to these programs is below and is also discussed in testimony submitted with this Application.

- 1. Appliance Recycling Program
- 2. Low Income Neighborhood Program
- 3. Home Energy Solutions

THEREFORE, consistent with the information provided above as supported by the Company witnesses in testimony included with this Application, Duke Energy Ohio respectfully requests

that the Commission approve the cost recovery mechanism proposed herein along with the new energy efficiency and peak demand reduction programs for inclusion the its existing portfolio.

Respectfully submitted,

Amy/B. Spiller (0047277) Deputy General Counsel Elizabeth H. Watts (0031092) Associate General Counsel DUKE ENERGY OHIO 155 East Broad Street, 21st Floor Columbus, Ohio 43215 Phone: 614-222-1330 Fax: 513-419-1846 Elizabeth.Watts@duke-energy.com Amy.Spiller@duke-energy.com

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Duke Energy Ohio Exhibit

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Application of Duke Energy Ohio, Inc. to Revise its Energy Efficiency Rider and for Approval of New Energy Efficiency Programs

Case No. 11-4349-EL-RDR

DIRECT TESTIMONY OF

TIMOTHY J. DUFF

ON BEHALF OF

DUKE ENERGY OHIO, INC.

July 20, 2011

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I. INTRODUCTION AND PURPOSE OF TESTIMONY

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Timothy J. Duff. My business address is 526 South Church Street,
Charlotte, North Carolina 28202.

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

A. I am employed by Duke Energy Business Services LLC, an affiliate of Duke
Energy Ohio, Inc. (Duke Energy Ohio, or Company) as General Manager, Retail
Customer and Regulatory Strategy, Customer Strategy & Innovation.

8 Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL 9 QUALIFICATIONS.

10 I graduated from Michigan State University with a Bachelor of Arts in Political Α. 11 Economics and a Bachelor of Arts in Business Administration, and received a 12 Master of Business Administration from the Stephen M. Ross School of Business 13 at the University of Michigan. I started my career with Ford Motor Company and 14 worked in a variety of roles within the Company's financial organization. After 15 five years with Ford Motor Company, I began work with Cinergy in 2001, 16 providing business and financial support to plant operating staff. Eighteen months later I joined Cinergy's Rates Department, where I provided revenue 17 18 requirement analytics and general rate support for the company's transfer of three 19 generating plants. After my time in the Rates Department, I spent a short period 20 of time in the Environmental Strategy Department, and then I joined Cinergy's 21 Regulatory and Legislative Strategy Department. After Cinergy merged with 22 Duke Energy in 2006, I worked for four years as Managing Director, Federal

1	Regulatory Policy. In this role, I was primarily responsible for developing and
2	advocating Duke Energy's policy positions with the Federal Energy Regulatory
3	Commission. I assumed my current position in 2010.

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

A. No. However I have provided testimony in cases before the Indiana Utilities
Regulatory Commission and the North Carolina Public Utilities Commission.

8 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS 9 PROCEEDING?

10 A. The purpose of my testimony is to discuss the details of Duke Energy Ohio's
11 proposed energy efficiency and peak demand reduction cost recovery mechanism.

II. <u>DISCUSSION OF THE PROPOSED PROGRAM</u>

12 Q. WHAT ARE THE ELEMENTS OF DUKE ENERGY OHIO'S PROPOSED

13 COST RECOVERY MECHANISM?

14 A. In this Application, Duke Energy Ohio is requesting approval of its proposed 15 energy efficiency and peak demand reduction rider, Rider EE-PDR. This rider is 16 designed to recover costs associated with implementing energy efficiency and 17 peak demand reduction programs, including ongoing approved programs as well 18 as three new proposed programs in our portfolio. The proposed cost recovery 19 mechanism will include program costs, evaluation, measurement and verification 20 costs and a performance-based incentive.

21 Q. DOES THE COMPANY PROPOSE TO RECOVER LOST 22 DISTRIBUTION REVENUE IN THE RIDER PROPOSED IN THIS CASE?

1 Α. No. As I will discuss in further detail below, the Company is not requesting 2 recovery of lost distribution revenue as an element of Rider EE-PDR at this time. 3 The Company has proposed an alternative recovery mechanism for energy 4 efficiency and peak demand reduction in its Electric Security Plan Case No. 11-5 In that case, the Company has proposed a formula rate 3549-EL-SSO. 6 mechanism which is responsive to the Commission's directives in related cases. 7 If that mechanism is not approved as part of the Company's ESP, the Company 8 reserves the right to propose recovery of lost distribution revenues in this rider.

9 Q. WHY DOES DUKE ENERGY OHIO REQUIRE A COST RECOVERY 10 MECHANISM AT THIS TIME?

A. Subsequent to the enactment of Amended Substitute Senate Bill 221 (SB 221)
into law in 2008, Duke Energy Ohio submitted an ESP that included an energy
efficiency and peak demand reduction rider, Rider save-a-watt (Rider SAW). The
ESP was mostly settled through a Stipulation and Recommendation that was
adopted and approved by the Commission. Rider SAW was effective January 1,
2009 and ends December 31, 2011. Therefore, the Company now requires a new
cost recovery mechanism to take effect on January 1, 2012.

18 Q. WHY IS IT IMPORTANT FOR THE COMPANY TO CONTINUE TO 19 OFFER ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION 20 PROGRAMS?

A. Electric distribution utilities are required to meet specified energy efficiency and
 peak demand reduction targets by Ohio law. Beyond that however, electric
 distribution utilities are uniquely qualified and in the best position to

1 systematically capture productivity gains in the use of electricity and maximize 2 those gains for the benefit of all customers. Duke Energy Ohio has delivered 3 energy efficiency since 1992 and its customers have come to rely upon Duke 4 Energy Ohio to offer energy efficiency opportunities. Moreover, Duke Energy 5 Ohio is well-positioned to understand changes in customer preferences and energy 6 efficiency advancements, such as SmartGrid, that will allow the Company to 7 accelerate the development of new technologies and new programs. Finally, 8 Duke Energy Ohio is best positioned to customize its energy efficiency and peak 9 demand reduction measures and programs to optimize the Company's resource 10 needs and offset peak energy usage for the benefit of its customers.

Q. PLEASE DISCUSS THE ROLE OF THE DUKE ENERGY COMMUNITY PARTNERSHIP COLLABORATIVE.

A. The Duke Energy Community Partnership Collaborative (Collaborative) is
 comprised of interested parties and stakeholders. The Collaborative has a long
 and successful history with energy efficiency in Ohio. Duke Energy Ohio
 currently engages the Collaborative to review program changes, as well as to
 preview program additions to its portfolio. This allows the Company to offer new
 programs expeditiously and to respond to market conditions and technology
 developments, and innovations in efficiency measures.

20 Duke Energy Ohio expects to continue to work with this Collaborative to create a 21 transparent energy efficiency process and to realize the benefits of input from the 22 diverse perspectives of the group.

Q. PLEASE EXPLAIN WHY DUKE ENERGY OHIO IS PROPOSING AN ALTERNATIVE TO THE SAVE A WATT PLAN, RIDER SAW.

3 Α. The Rider SAW recovery mechanism that was proposed and approved in Duke 4 Energy Ohio's first ESP in 2008 was designed to put demand side resources on a 5 level playing field with supply side resources by allowing Duke Energy Ohio to 6 receive an incentive for delivering verified energy savings. While receiving an 7 incentive based upon the delivery of cost effective energy efficiency is still a 8 fundamentally sound strategy, Rider SAW introduced some complexity to the 9 process that was ultimately unnecessary. In order to accommodate interested 10 parties and to streamline the cost recovery process, Duke Energy Ohio proposes 11 to move away from the Rider SAW model toward a more traditional and more 12 easily verifiable UCT-based shared savings incentive mechanism.

13 Q. WHAT IS DUKE ENERGY OHIO'S PROPOSAL FOR RIDER EE-PDR?

14 Α. Duke Energy Ohio proposes to recover the costs incurred to deliver energy 15 efficiency and peak demand reduction, as well as to earn an incentive based upon 16 its ability to exceed its annual efficiency savings targets that are required of all 17 electric distribution customers by Ohio law. The level of incentive, the magnitude 18 of the percentage of the net system benefits (avoided costs less the costs of 19 delivering the efficiency) that the Company will earn, is tiered and can range from 20 7.5% up to 15% depending on how much the actual efficiency savings exceed the 21 annual target. See Table 1 below.

Table 1		
Achievement of	Shared Savings	
<u>Annual Target</u>	<u>Percentage</u>	
<u><</u> 100	0%	
>100-110	7.5%	
>110-115	f0.0%	
>115	15%	

Q. PLEASE EXPLAIN DUKE ENERGY OHIO'S SHARED SAVINGS INCENTIVE PROPOSAL IN GREATER DETAIL.

A. The incentive that the Company is eligible to earn will be calculated based upon a percentage of the net system benefits that are delivered by Duke Energy Ohio's approved portfolio of programs. For example, if the Company exceeds its annual target of energy efficiency savings by 11% and delivers \$50 million dollars of avoided cost benefits to customers associated with \$35 million dollars of energy efficiency expenditures, the Company's incentive would be \$1.5 million dollars as the result of the following calculation shown in Table 2 below.

Table 2	
Avoided Cost Benefit	<u>Millions</u> \$50.0
Utility Energy Efficiency Costs	35.0
Incentive Level (111% achievement)	\$13.0 10%
Utility Incentive Earned	\$1.5

Q. PLEASE EXPLAIN WHY THE PUBLIC UTILITIES COMMISSION OF OHIO SHOULD APPROVE THIS ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION COST RECOVERY MECHANISM.

A. The shared savings proposal is a well-recognized model and is fair and
reasonable. The Company's shared savings proposal only rewards the Company

for achievement in excess of its annual target. Such an incentive is reasonable in that it provides some benefit to the Company for over-compliance. Additionally, by incorporating a mechanism that ties the incentive that the Company is eligible to earn, to the net system benefits delivered by the energy efficiency offerings, the magnitude of incentive the Company may earn is therefore tied to the cost effectiveness of the programs. Thus, the shared savings mechanism creates alignment between the utility incentive and potential benefits for the customer.

8 Q. PLEASE EXPLAIN THE INCENTIVE MECHANISM AND WHY SUCH 9 AN APPROACH MAKES SENSE.

10 A. The shared savings mechanism proposed by the Company is consistent with other 11 programs that have been approved by the Commission. However, the tiered 12 approach recognizes different levels of incentive for different levels of over-13 achievement.

14 Q. PLEASE DISCUSS HOW THE COMPANIES BANKED ENERGY

15 **EFFICIENCY IMPACTS WILL BE APPLIED WITH RESPECT TO**

16 **BOTH REACHING COMPLIANCE WITH ITS ANNUAL EFFICIENCY**

17 TARGETS, AS WELL AS WITH RESPECT TO ITS ABILITY TO EARN

18 INCENTIVE?

A. The impacts that are currently reflected in Duke Energy Ohio's impact bank are
 program impacts or efficiency savings that at no point have been used to meet the
 company's annual compliance targets or used with respect to the calculation of
 company incentive with respect to save-a-watt. For this reason the company
 believes that it should have the ability to use these impacts for the purposes of

both meeting the annual compliance target and for establishing a level of
 achievement for the purposes of determining the level of its earned shared savings
 incentive. While the impacts will be used for these two purposes, the company proposed rider will not reflect any costs associated with the achievement of these
 banked impacts.

6 Q. PLEASE DISCUSS HOW THE SELF DIRECT MERCANTILE 7 PROGRAM WILL BE FACTORED INTO THE DETERMINATION OF 8 THE COMPANY'S ANNUAL EE RIDER.

9 А. The Company is proposing that the self direct mercantile program will impact the 10 Company's EE Rider in two ways. First, the cost of running the mercantile 11 customer program including the incentives paid to these customers will be 12 included in the calculation of the EE Rider. Second, the impacts that are achieved 13 by the self direct mercantile customer will be included in the Company's annual 14 efficiency achievement both for the purpose of compliance and for determining 15 the level of incentive that it has earned. However, the company will not include 16 the impacts and associated avoided costs of the self direct mercantile program in 17 the calculation of its shared savings incentive.

18 Q. ARE THE TERMS OF THIS PROPOSAL CONSISTENT WITH THE 19 COMMISSION'S ENERGY EFFICIENCY RULES?

A. Yes. As part of my responsibilities with regard to energy efficiency compliance
 in Ohio, it is necessary to have an understanding of the Commission's rules. One
 of the Commission's energy efficiency and peak demand reduction rules states
 that an electric utility may request recovery of an approved rate adjustment

mechanism reflecting peak demand response and energy efficiency program costs,
 lost distribution revenues and shared savings. This rule further states that any
 such recovery shall be subject to an annual reconciliation after issuance of the
 Commission's verification report. Duke Energy Ohio's proposed Rider EE-PDR
 is consistent with this rule and we further propose that this recovery mechanism
 would be reconciled each year after issuance of the Commission's verification

8 Q. PLEASE EXPLAIN HOW DUKE ENERGY OHIO PROPOSES TO 9 RECOVER LOST DISTRIBUTION REVENUE.

A. Unlike Rider SAW, Rider EE-PDR does not include a request for recovery of lost
 distribution margins which are ordinarily included to eliminate the disincentive
 for a utility to pursue energy efficiency.

13 Q. PLEASE EXPLAIN THE CONCEPT OF "LOST DISTRIBUTION" 14 REVENUE."

15 A. Lost distribution revenue is a term used to describe the negative effect that 16 offering energy efficiency programs can have on a utility's ability to recover its 17 fixed costs and earn an allowed return. Under the traditional regulatory 18 framework a utility generally recovers both its variable costs and fixed costs 19 through volumetric rates paid by its customers, on a price per kilowatt hour basis. 20 The volumetric price is determined by dividing the utility's total costs by the 21 annual sales level realized at the time rates were set. If actual sales vary from the 22 level that was estimated in determining the volumetric rate, all else being equal, 23 the utility will either over- or under-recover the level of test period fixed costs

approved by the Commission, because unlike variable costs, the fixed costs do not
 vary with sales. Thus, if utilities are required to reduce sales of electricity by
 enabling energy efficiency, the utility under-recovers fixed costs. This creates a
 disincentive for the utility.

5 Q. IF THIS DISINCENTIVE EXISTS, WHY IS THE COMPANY NOT 6 PROPOSING RECOVERY OF LOST DISTRIBUTION REVENUE IN 7 THIS CASE?

8 Α. The recovery of lost distribution revenue is a critical component of any recovery 9 mechanism associated with energy efficiency. However, Duke Energy Ohio has 10 proposed an alternative rate recovery mechanism in its current ESP proposal 11 before the Commission in Case No. 3549-EL-SSO. In that case, the Company has 12 eliminated the need for a lost distribution revenue recovery mechanism by 13 proposing a formula distribution rider. This formula rider will allow actual sales 14 volumes to be reflected in the calculation of the Company's distribution rates on 15 an annual basis, thereby eliminating the lag between rate cases, which creates the 16 potential to under-recover fixed costs due to the impacts of energy efficiency.

17 Q. WILL THE PROPOSED RIDER IN THE ESP CASE ELIMINATE THE
 18 NATURAL DISINCENTIVE TOWARD PROMOTING ENERGY
 19 EFFICIENCY AND IS IT CONSISTENT WITH COMMISSION POLICY?

A. Yes. The formula rate structure is consistent with the Company's understanding
of the Commission's policy with respect to energy efficiency and cost recovery.
In a recent Opinion and Order from the Commission, the Commission expressed a
preference for creative regulatory mechanisms in order to eliminate the need for

recovery of lost distribution revenues. The formula distribution rider proposed by
 Duke Energy Ohio in its ESP Application is responsive to this statement of
 policy.

4 Q. IS DUKE ENERGY OHIO WILLING TO DELIVER ENERGY 5 EFFICIENCY AND PEAK DEMAND REDUCTION WITHOUT 6 RECOVERING LOST DISTRIBUTION REVENUE ALTOGETHER?

A. No. The Commission's rules explicitly provide for recovery of lost distribution
revenue and if the Commission chooses not to approve the proposed distribution
rider in the ESP case, then Duke Energy Ohio reserves the right to include lost
distribution revenue as part of the request for recovery in Rider EE-PDR.
Without such recovery, the Company would be financially harmed and would be
discouraged from offering energy efficiency and peak demand reduction.

13 Q. WHAT OTHER INFORMATION IS THE COMPANY OFFERING IN

14 SUPPORT OF ITS REQUEST FOR A COST RECOVERY MECHANISM

15 FOR ENERGY EFFICIENCY AND PEAK DEMAND REDUCTION?

A. Duke Energy Ohio witness Casey Mather, will provide a description of the mass
 market customer programs that are presently approved and included in the
 Company's portfolio. Additionally, Mr. Mather will discuss several new and
 innovative programs that the Company believes will be successful in the market
 place.

21 Duke Energy Ohio witness Kevin A. Bright will address the non-residential 22 energy efficiency and peak demand reduction programs and components of the 23 Company's Application. Mr. Bright will discuss the self-direct option for non-

residential customers and the elimination of the special energy efficiency rate that
 was established under Rider SAW for Rate TS customers. Additionally, Mr.
 Bright will explain in detail the different energy efficiency offerings for non residential customers in the Duke Energy Ohio service territory.

5 Duke Energy Ohio witness Ashlie J. Ossege will explain the Company's 6 compliance with the Commission's robust evaluation, measurement and 7 verification requirements.

8 Finally, Duke Energy Ohio witness James E. Ziolkowski will discuss the 9 calculation of the initial Rider EE-PDR beginning in January, 2012. This 10 calculation is based upon the projected energy efficiency costs and associated 11 achievements and incentive levels. Mr. Ziolkowski will also explain the 12 procedure for reconciling Rider SAW and for annual applications to reconcile 13 Rider EE-PDR.

III. ADDITIONAL ELEMENTS OF THE COMPANY'S PROPOSAL

Q. OTHER THAN ALLOWING DUKE ENERGY OHIO THE RELIEF
DESCRIBED ABOVE, WHAT OTHER ACTIONS COULD THE
COMMISSION TAKE THAT WOULD ENHANCE THE COMPANY'S
ABILITY TO COST EFFECTIVELY OFFER ITS CUSTOMERS
ATTRACTIVE OFFERINGS AND MEET THE ANNUAL EFFICIENCY
TARGETS?

A. There are two things that the Commission should consider as an enhancement to
 the Company's ability to more effectively offer energy efficiency programs to its
 customers. First, in addition to the program and funding flexibility that has been

enjoyed by the company under save-a-watt, the company believes that creating an
expedited approval process for pilot programs would allow the company to get
new products to market more quickly and capitalize on market conditions and
technological changes that can enable new products and services. Secondly, the
Commission should allow electric utilities to recognize the natural gas-related
impacts from programs in the company's electric energy efficiency portfolio.

Q. PLEASE DISCUSS IN MORE DETAIL THE COMPANY'S PROPOSAL

7

8 WITH RESPECT TO EXPEDITED APPROVAL FOR PILOTS?

9 A. It would be beneficial to create an automatic approval process for pilot programs,
10 where the total pilot program cost are projected to be less than \$200,000, and to
11 be cost effective under the TRC, and the program has been vetted and approved
12 by the Duke Energy Community Partnership Collaborative. By allowing these
13 small scale tests of new products to avoid the traditional new program approval
14 process, The Company can quickly test new and innovative products and services
15 that will be necessary in the future for it to achieve its annual mandates.

16 Q. PLEASE DISCUSS IN MORE DETAIL THE COMPANY'S PROPOSAL

17 WITH RESPECT TO GAS IMPACTS ASSOCIATED WITH ELECTRIC 18 ENERGY EFFICIENCY PROGRAMS?

A. First, let me begin by clarifying that Duke Energy Ohio is not proposing or
 requesting the approval of any gas energy efficiency programs as part of this
 filing. While Duke Energy Ohio is currently working to develop a robust
 portfolio of natural gas energy efficiency programs for a filing that it anticipates
 making later this year, Duke Energy Ohio's proposal in this case is wholly tied to

1 impacts from its electric energy efficiency portfolio of programs. Currently, 2 Duke Energy Ohio offers a number of programs that create whole-home benefits 3 that will allow the customer to save on both their natural gas bill and electric bill. 4 While these programs are delivering both types of efficiency impacts, the 5 company only recognizes the energy efficiency gains associated with electricity. 6 If the Commission could work with Duke Energy Ohio and the other electric 7 utilities to develop a conversion methodology to translate these gas impacts into 8 kWh savings, it would allow the utility to more easily recognize the true impact of 9 the program and help the utilities meet their annual mandated targets; all while 10 adding no additional program cost to customers.

IV. <u>CONCLUSION</u>

11 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

12 A. Yes.

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Application of Duke Energy Ohio, Inc. to Revise its Energy Efficiency Rider and for Approval of New Energy Efficiency Programs

Case No. 11-4393-EL-RDR

DIRECT TESTIMONY OF

CASEY MATHER

ON BEHALF OF

DUKE ENERGY OHIO, INC.

July 20, 2011

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I. <u>INTRODUCTION</u>

1	Q.	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
2	А.	My name is Casey Mather and my business address is 526 Church Street,
3		Charlotte, North Carolina, 28201.
4	Q.	BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
5	А.	I am employed by the Duke Energy Business Services LLC, an affiliate of Duke
6		Energy Ohio, Inc., (Duke Energy Ohio or Company) as Managing Director, Mass
7		Market Strategy and Market Planning.
8	Q.	PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL
9		EXPERIENCE.
10	А.	I graduated from North Carolina State University with a Bachelor of Science in
11		Mechanical Engineering and joined Duke Energy Corp. in 1980. At Duke Energy
12		Corp., I have held numerous positions in areas related to Generation, Distribution,
13		Planning, Customer Care and Marketing. For the past ten years, I have worked in
14		marketing management with a focus on our mass market customers.
15	Q.	PLEASE DESCRIBE YOUR DUTIES AS MASS MARKET STRATEGY
16		AND MARKET PLANNING MANAGER.
17	А.	As Managing Director of Mass Market Strategy and Market Planning, my team
18		and I oversee the management of our energy efficiency programs to ensure cost
19		effective delivery, the achievement of planned energy and load impacts and the
20		delivery of an experience that meets our customers' expectations. Achieving
21		these outcomes requires us to manage the performance of our contracted vendors,
22		and we develop and execute a marketing plan to achieve customer adoption. In

CASEY MATHER DIRECT

addition, we work with external consulting and engineering firms to assist with
 development of cost, impact and participation assumptions for our programs.

3 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC 4 UTILITIES COMMISSION OF OHIO?

5 A. No.

6 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS 7 PROCEEDING?

A. The purpose of my testimony in this proceeding is to explain the current energy
efficiency portfolio offered by Duke Energy Ohio and to explain some of the
marketing strategies the Company employs to raise awareness and adoption of our
programs. In addition, I will cover three new proposed programs. The programs are
Appliance Recycling Program, Low Income Neighborhood Program and a pilot
called Home Energy Solutions.

14 Q. WHAT ENERGY EFFICIENCY (EE) PROGRAMS DOES DUKE 15 ENERGY OHIO CURRENTLY OFFER?

16 Α. Duke Energy Ohio's residential energy efficiency offers consist of our Smart \$aver 17 Residential, Residential Energy Assessments, Home Energy Comparison Report, 18 Energy Efficiency Education Program for Schools, Low Income Services and Power 19 Manager programs. These programs were previously approved by the Commission 20 in Duke Energy Ohio's Electric Security Plan Case No. 08-920-EL-SSO in 2008, 21 and then again in 2010 in Duke Energy Ohio's application for approval of its 22 portfolio, Case No. 09-1999-EL-POR, however, a brief description of each program 23 is provided below for convenience. Please see Exhibits AJO 5 and 6, attached to

CASEY MATHER DIRECT

- the testimony of Company Witness Ashlie J. Ossege, for a summary of cost and
 impact assumptions for both existing and proposed programs.
- 3 Duke Energy Ohio's Approved Portfolio:
- 4 <u>Smart \$aver[®] Residential</u>

The Smart \$aver[®] Program provides incentives to customers, builders, and heating, 5 6 ventilation and air conditioning (HVAC) dealers and weatherization contractors to 7 promote and install high-efficiency air conditioners and heat pumps with electronically commutated fan motors (ECMs), as well as attic insulation and air 8 9 sealing, duct sealing and insulation, HVAC tune ups and lighting. These programs 10 are promoted through trade ally outreach and direct communication to customers 11 using numerous channels such as direct mail, community presentations and website 12 promotions. In regard to lighting offers, online promotions and social media have 13 been particularly effective. In addition, the Company is evaluating additional bulb 14 types for the home such as indoor floodlighting.

15 <u>Residential Energy Assessments</u>

16 Duke Energy Ohio provides an in-home assessment called Home Energy House Home Energy House Call is promoted primarily through direct mail and 17 Call. 18 targets owner-occupied, single family residences. The targeting also considers 19 geographic location to better align assessor resources to manage costs and maintain a 20 positive customer experience. The assessors are Building Performance Institute, Inc. 21 certified and spend sixty to ninety minutes with customers as they evaluate the home 22 and explain ways to save energy and money. The assessors offer low cost/no cost 23 recommendations that encourage behavioral changes and inform customers about

CASEY MATHER DIRECT

energy efficiency considerations for higher cost investment decisions like new
 HVAC or appliances. The assessors also install measures from an energy efficiency
 kit while in the home.

4

<u>Home Energy Comparison Report</u>

5 The Home Energy Comparison Report compares household electric usage to similar, 6 neighboring homes and provides recommendations to lower energy consumption. 7 These normative comparisons are intended to induce an energy consumption 8 behavior change. The Home Energy Comparison Report is promoted through direct 9 mail to targeted customers with desirable characteristics who are likely to respond to 10 the information.

11 Energy Efficiency Education Program for Schools

12 This program educates students in the classroom about sources of energy and energy 13 efficiency in homes, and it provides students the ability to conduct an energy audit of 14 their homes. After completing a home energy survey, participants receive an Energy 15 Efficiency Starter Kit. The program is promoted to teachers and school 16 administrators.

17 Low Income Services

18 The company offers a refrigerator replacement program that complements 19 weatherization services offered by other parties. The program is available to 20 customers with incomes up to 200 percent of the federal poverty level and is offered

- 21 through Community Action Agencies and Non-Governmental Organizations.
- 22 <u>Power Manager</u>
- 23 This program offers incentives to single family residential customers that allow the

1 Company to cycle their outdoor central air conditioning compressor during peak 2 load periods between May and September. The program is promoted using various 3 channels with an emphasis on direct mail, email and web based promotions.

4

PROPOSAL OF NEW PROGRAMS:

5 Duke Energy Ohio proposes the following three new programs with this 6 Application to be included in its portfolio of programs and to be introduced in 2012.

7 <u>Appliance Recycling Program</u>

The Appliance Recycling program will encourage customers to responsibly dispose 8 9 of older, functional but inefficient refrigerators and freezers. These are typically 10 second or third units in the home. Customers will have the old unit picked up at 11 their home at no charge and will receive an incentive for participating. Disposed 12 units will have 95 percent of material recycled with only 5 percent entering landfills. Program marketing will consist of direct mail, social media, and community 13 14 presentations and publications like newsletters. Point of sale messaging will also be 15 pursued with prominent appliance retailers.

16 Low Income Neighborhood Program

The Duke Energy Ohio Neighborhood Program takes a non-traditional approach to serving income-qualified areas of the Duke Energy Ohio service territory. The program engages targeted customers with personal interaction in a familiar setting while ultimately reducing energy consumption by directly installing measures and educating the customer on better ways to manage their energy bills. Examples of direct installed measures include CFLs, water heater and pipe wrap, low flow shower heads/faucet aerators, window and door air sealing and HVAC filter

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1 replacements. Targeted low income neighborhoods qualify for the program if at 2 least 50% of the households are at or below 200% of the federal poverty guidelines. Duke Energy Ohio will analyze electric usage data and previous program 3 participation to prioritize neighborhoods that have the greatest need and propensity 4 5 to participate. While the goal is to serve neighborhoods where the majority of 6 residents are lower income, the program is available to all Duke Energy Ohio 7 customers in the defined neighborhood. This program will be available to both 8 homeowners and renters occupying single family and multi-family dwellings in the 9 target neighborhoods that have electric service provided by Duke Energy Ohio. A 10 community-based kick-off event will be held for targeted neighborhoods. These 11 kick-off events will feature local community leaders and energy experts that will 12 explain program components. The purpose of the kick-off event is to rally the 13 neighborhood around energy efficiency and to help customers understand steps 14 needed to lower their energy bills. Following the kick-off event, energy assessments 15 will be completed in the customers' homes and the appropriate energy saving 16 measures will be installed if the customer elects to have the work completed. 17 Direct mail and call center support will supplement community based outreach. This 18 program will be used as a lead generation source for other Duke Energy Ohio and 19 external energy efficiency programs.

20

Home Energy Solutions (formerly called Home Energy Management)

Home Energy Solutions is an approach to delivering energy efficiency solutions to
 customers in a way that combines a number of energy efficient measures into more
 valuable solutions. Home Energy Solutions will combine energy usage information

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and recommendations with the ability to leverage potential pricing options and energy management offerings into convenient in-home solutions.

At the center of the Home Energy Solutions is the Home Energy Manager (HEM). 3 4 HEM is a smart grid enabled consumer technology that will allow customers and 5 Duke Energy Ohio to manage in-home devices and information to deliver energy efficiency optimization and demand response benefits. The HEM will integrate with 6 7 other devices in the home, offering customers critical feedback and control of high 8 use energy devices. Examples include thermostats, electric water heaters, pool/spa 9 pumps, electric vehicle charging stations and smart appliances, where available. 10 Customers will have the capability to set preferences on how and when these devices 11 use energy based upon their personal comfort, energy savings goals and the current 12 energy rate. This is particularly valuable for customers participating in one of the 13 various rate plans Duke Energy Ohio is offering. Customers will also have remote 14 access to their HEM system via a web browser and smart phones. Pilot participants 15 must be single family, owner occupied residences, have a central air conditioning 16 system and 12 months of historical energy usage for the existing premises. The pilot 17 will be promoted using direct mail, web, social media and interactive 18 communications.

 19
 Q.
 ARE THESE PROGRAMS DESIGNED TO DELIVER ENERGY

 20
 EFFICIENCY AND PEAK DEMAND REDUCTION IN A COST

 21
 EFFECTIVE MANNER?

22 A. Yes.

23 Q. HAVE THESE THREE PROGRAMS BEEN PRESENTED TO THE DUKE

- 1 ENERGY COMMUNITY PARTNERSHIP COLLABORATIVE?
- 2 A. Yes.
- 3 Q. DO YOU RECOMMEND THESE THREE PROGRAMS FOR ADOPTION?
- 4 **A.** Yes.

III. <u>CONCLUSION</u>

- 5 Q. DOES THIS CONCLUDE YOUR TESTIMONY?
- 6 A. Yes.

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BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Application of Duke Energy Ohio, Inc. to Revise its Energy Efficiency Rider and for Approval of New Energy Efficiency Programs

Case No. 11-4393-EL-RDR

DIRECT TESTIMONY OF

ASHLIE J. OSSEGE

ON BEHALF OF

DUKE ENERGY OHIO, INC.

July 20, 2011

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I. <u>INTRODUCTION</u>

1	Q.	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
2	А.	My name is Ashlie J. Ossege, and my business address is 139 East Fourth Street,
3		Cincinnati, Ohio 45202.
4	Q.	BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
5	А.	I am employed by Duke Energy Business Services LLC, an affiliate of Duke
6		Energy Ohio, Inc. (Duke Energy Ohio, or Company) as Manager, Market
7		Analytics.
8	Q.	PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL
9		EXPERIENCE.
10	А.	I graduated from the University of Cincinnati with a Bachelor's Degree in
11		Marketing and Real Estate. I have completed additional course work at the
12		graduate level in quantitative analysis. I am an Instructor in the Graduate
13		Economics Department at the University of Cincinnati, teaching Applied
14		Statistical Programming Methods for Economists.
15		From 1994 to 1997, I was employed by various real estate brokers,
16		including Comey & Shepherd Realtors as a certified Realtor in Ohio. From 1997
17		to 2006, I worked for Cinergy and Duke Energy Ohio as a Lead Market Analyst
18		developing and managing product/program design activities as well as market
19		research projects. Since 2006, I have been employed by Duke Energy Business
20		Services, currently in the role of Manager, Market Analytics supporting energy
21		efficiency research, analytics and evaluation.
22	Q,	PLEASE DESCRIBE YOUR DUTIES AS MANAGER OF MARKET

ASHLIE J. OSSEGE DIRECT

1 ANALYTICS.

2	A.	As Manager, Market Analytics, I have responsibilities for a variety of analytical
3		functions including market research data collection and analysis, marketing
4		design testing, energy load analysis, energy efficiency ("EE") cost effectiveness
5		analysis, impact evaluation studies, and product design research. In this role, I
6		provide services for Duke Energy affiliates, including Duke Energy Ohio.
7		Additionally, I participated on behalf of the Company at public forums held at the
8		Public Utilities Commission of Ohio (Commission) wherein the Commission, its
9		Staff and interested stakeholders developed the Technical Reference Manual
10		(TRM) which is the subject of the Commission's docket in Case No. 09-512-GE-
11		UNC.
12	Q.	HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC
13		UTILITIES COMMISSION OF OHIO?
14	А.	No. However I have provided testimony in cases before the Indiana Utilities
15		Regulatory Commission and the North Carolina Public Utilities Commission.
16	Q.	WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS
17		PROCEEDING?
18	А.	The purpose of my testimony is to explain the rationale for program evaluation, as
19		well as the processes by which Duke Energy Ohio evaluates its EE programs. My
20		testimony also discusses how the results from the Evaluation, Measurement and
21		Verification (EM&V) process will be used in the proposed rider. I will explain
22		how the Company's proposal for EM&V complies with the Commission's rules.
23		In addition, I will review: (1) the DSMore [™] model that the Company uses to

ASHLIE J. OSSEGE DIRECT
evaluate the cost-effectiveness of energy efficiency programs; (2) the assumptions
 underlying the modeling; and (3) the cost-effectiveness tests utilized along with
 the results of these cost-effectiveness analyses.

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II. <u>OVERVIEW OF EVALUATION, MEASUREMENT AND</u> <u>VERIFICATION</u>

6 Q. WHAT IS EVALUATION, MEASUREMENT & VERIFICATION?

7 Α. Evaluation, measurement and verification of energy efficiency programs, referred 8 to as EM&V, determines both program and project impacts. Evaluation studies 9 and activities determine not only the impacts of energy efficiency programming 10 but also the effectiveness of that programming from the utility and customer 11 perspective and can include freeridership and spillover effects. Measurement and 12 verification encompasses data collection, monitoring, and analysis associated with 13 the calculation of gross energy and demand savings from individual sites or 14 projects.

15 Q. WHY IS EM&V AN IMPORTANT COMPONENT OF ENERGY

16 EFFICIENCY PROGRAMMING?

17 Α. Amended Substitute Senate Bill 221 (SB221) sets forth specific energy efficiency 18 and demand reduction targets with which electric utilities must comply. The 19 Commission is charged with ensuring that utilities meet these targets and 20 therefore must have a rational method with which to do so. Aside from 21 complying with Commission rules and orders, Duke Energy Ohio believes that 22 successful, reliable and cost-effective energy efficiency programs require EM&V 23 activities for several reasons. First and foremost, reliably measuring savings 24 achieved from energy efficiency provides certainty for resource planning and

1 provides accountability to ratepayers and shareholders. Second, properly 2 executed evaluation activities provide insights and support for program improvements. Accurately understanding savings estimates and program efficacy 3 4 enables Duke Energy Ohio to drive increased energy savings through improved 5 design as well as provides insights for the targeting and marketing of specific 6 programs that will improve overall participation. Reliable EM&V also enables 7 the Company to understand how best to cost effectively generate kW and kWh 8 yield from our energy efficiency investments.

9 Q. WHAT DIFFERENT TYPES OF EVALUATION DOES DUKE ENERGY 10 OHIO UTILIZE?

11 There are five types of evaluation that the Company relies upon. First, there is Α. 12 cost effectiveness evaluation, which requires establishing a set of assumptions 13 around impacts and market potential ex-ante, or before the program 14 implementation. Second, there is impact evaluation, which strives to estimate the 15 actual energy and demand load reductions realized from a program through 16 billing analysis, engineering analysis, or statistically adjusted engineering models. 17 Third, the Company relies upon measurement, which typically refers to the 18 metering, sub-metering, hours-of-use logger metering, statistical pre- and post-19 analyses or other modes of measuring load reduction. Usually, measurement is a 20 subset of an impact evaluation. Fourth, there is verification, which refers to the 21 confirmation that customers actually installed the intended measures, that vendors 22 are performing to expectation and that operational factors on the customer site are 23 occurring such that the expected load savings are being realized. Finally, there

are also process evaluations that refer to a set of review and auditing methods that 1 ascertain program effectiveness, energy efficiency, customer satisfaction and 2 3 experience, vendor satisfaction and other factors that contribute substantially to program success. We propose to conduct these five types of evaluations through 4 5 the use of the approaches set forth in Duke Energy Ohio's 2010 Annual Update 6 Filing Appendix C and consistent with national methods used for EM&V. In just 7 the past year, Duke Energy Ohio has been able to uncover, through active 8 evaluation research, several insights that the Company believes will improve the 9 ability to cost effectively capture energy efficiency savings for customers. For 10 example, in Ohio, by targeting Compact Fluorescent Lamps (CFLs) efforts to 11 households that have not yet adopted CFLs, we are able to improve the speed at 12 which the lighting market undergoes a transformation and ensure that we deliver 13 those programs to households that will benefit the most, and yield the greatest 14 impacts, e.g. those who have not yet tried CFLs (or only a few CFLs). Evaluation 15 activities also help us understand which programs might not be as well understood 16 as the market believes; for example, we are learning that households do not 17 respond uniformly to behavioral interventions, such as requests to raise thermostat 18 settings for air conditioning, reduce hours of use for lighting, and lower 19 temperatures for water heaters. Evaluating impacts carefully across different 20 segments can contribute substantially to savings yields for customers.

21

Q. HOW DOES DUKE ENERGY OHIO PLAN TO MEASURE, MONITOR AND VERIFY THE OHIO DSM PROGRAMS?

- A. In general, the following approach will be used for monitoring and verification of
 Ohio DSM programs:
- 3 Paper and Electronic Verification
- Paper or electronic verification will be completed on all applications for • 4 5 energy efficiency incentives by customers. As part of the application process, specific customer and measure data will be requested from 6 7 applicants. Data requested will vary depending on the program, the 8 measure, the equipment and the delivery of the application. Customers and/or contractors will be contacted for clarification and completion of the 9 10 application if they fail to provide necessary information. The Company 11 will only process incentives once verification is complete and information is entered into the electronic tracking systems. Duke Energy Ohio Field 12 Verification and Monitoring Staff will maintain all customer applications 13 14 for incentives. Paper verification also serves as a key component of our marketing effectiveness efforts. Our research is beginning to show that 15 16 the very order in which we offer programs to customers affects the uptake 17 and participation rate. If we carefully evaluate our successes in program offerings, we are able to more cost effectively target energy efficiency 18 19 resources.
- 20 Field Verification and Monitoring

Consistent with industry standard, in most cases, randomly selected
 samples of approximately 5% of the installations will be field verified and
 monitored. On-site field visits verify the installation of the claimed

equipment in the proper manner, confirm appropriate contractor or vendor 1 2 processes and performance, and bring to light potential discrepancies or 3 process improvements for the programs. Sample size will be larger for 4 very large projects with significant incentives or energy impacts at risk. The size of such samples will be commensurate with the increased load 5 savings as determined by Duke Energy Ohio. The Company will provide 6 field training and support to auditors performing assessments, to ensure 7 8 quality both for communications and technical capabilities.

9 <u>Customer Satisfaction Surveys</u>

Duke Energy Ohio will use customer satisfaction surveys to monitor
 satisfaction with program delivery and design, seek additional
 improvements to the program, analyze experimental designs in market
 messaging, and potentially uncover latent problems or issues with the
 measure/installation. These surveys will be administered via telephone,
 web survey instruments, or mail surveys.

16 System Performance Tests

System performance tests, called "operability studies" for load control
 resources will be conducted periodically to ensure that operational systems
 are working correctly, and that the projected load reductions are reliably
 available when needed. Load research metering samples and tracking may
 also be used to verify energy reductions.

- 22 Early Feedback
- 23
- Early feedback is an important element in EM&V for all components,

including process and impact evaluations, but is also specifically relevant 1 2 for system performance tests. If a problem is found with the installations or operations, the contractor and customer will be notified to correct the 3 problem. In addition, subsequent work or projects performed by that 4 5 contractor will be monitored until Duke Energy Ohio is satisfied that the installations or projects are being completed according to program 6 7 specifications and operational standards. If the problems are not resolved 8 to the satisfaction of Duke Energy Ohio, that contractor, at the Company's 9 discretion, may be eliminated from the program.

10

11 Evaluation studies will generally include methods such as loggers to capture 12 appliance usage times, load research metering for hourly load analysis, 13 statistical pre- and post-billing analysis using comparison control groups, 14 engineering analysis and modeling, reference and comparisons to impact 15 studies conducted in other regions for similar programs, phone and online 16 interviews, and other methods reviewed within the International Performance 17 Measurement and Verification Protocols, the California Evaluation 18 Framework, and the Model Energy Efficiency Program Impact Evaluation 19 Guide prepared as part of the National Action Plan for Energy Efficiency.

20 Q. WILL DUKE ENERGY OHIO'S PROGRAMS ALSO BE REVIEWED BY

21 AN INDEPENDENT THIRD PARTY AND WHAT IS THEIR ROLE?

A. Yes. Duke Energy Ohio has provided for the independent review
and evaluation of its proposed programs by leveraging our existing program

evaluation contractor TecMarket Works. The initial evaluation plan that
 summarizes the proposed specific energy efficiency evaluation studies and
 activities has been developed and approved by Nick Hall, President of TecMarket
 Works and set forth in Attachment AJO 1, which provides an initial design for the
 EM&V analysis for the new proposed energy efficiency programs.

6

In addition to the developing the evaluation plans, TecMarket Works and their
subcontractors will perform the duties set forth in Attachment AJO 1 regarding
the measurement, monitoring and verification of Duke Energy Ohio's new
programs, as well as continue to perform EM&V on the approved programs as set
forth Duke Energy Ohio's 2010 Annual Update Filing Appendix C.

12 TecMarket Works is an independently owned, operated, and managed business 13 providing energy efficiency program evaluation services to governments, 14 regulatory agencies, and utility companies and has over 30 years experience in the 15 energy efficiency evaluation field.

16 Q. ARE DUKE ENERGY OHIOS' ENERGY EFFICIENCY PROGRAM

17 EVALUATION SUMMARIES CONSISTENT WITH STATE-OF-THE-

18 ART EVALUATION PROTOCOLS?

A. Yes. Nick Hall, President of TecMarket Works, was the primary author of the
 California Evaluation Framework, and the California Evaluation Protocols, which
 are the leading protocols in the evaluation field. Nick Hall also serves as one of

- 22 the members of the National Evaluation Protocol Technical Group for the
- 23 National Action Plan for Energy Efficiency, and is very familiar with the content

1	and approach of the current protocols and in the approaches presented in these
2	documents. Additionally, he is very familiar with the International Performance
3	Measurement and Verification Protocol ("IPMVP") and has directed or overseen
4	several hundred studies employing these protocols since 2002, and Nick has
5	incorporated the IPMVP approach into the California Energy Program Evaluation
6	Protocols. Duke Energy Ohio's energy efficiency summary program evaluation
7	plans employ the kinds of evaluation efforts, studies, and activities that are
8	associated with state-of-the-art evaluation research and do comply with the
9	approaches described in the California Evaluation Protocols, the National Action
10	Plan for Energy Efficiency Protocols, and the IPMVP Protocols. The Company's
11	independent evaluator, Nick Hall is personally responsible for making sure these
12	studies are reliable.

Q. WHAT IS THE ESTIMATED COST AND TIMEFRAME FOR THE EVALUATION, MONITORING AND VERIFICATION FOR THE OHIO DSM PROGRAMS?

A. Duke Energy Ohio estimates that 5% of total program costs will be required to
adequately and efficiently perform evaluation, monitoring and verification.
Historical industry experience suggests that evaluation costs are typically 3% to
8% of total program spending and the Company believes that 5% is reasonable
and appropriate because the Company is committed to obtaining reliable and
cost- effective estimates of the load impacts from the programs.

Attachment AJO 2, attached hereto generally outlines the expected timeframes and completion of evaluations for the Ohio Demand Side Management Programs; however, final scheduling will be based on actual
 program approval, initiation and realized participation rates and as such
 Attachment AJO 2 may be modified or revised accordingly.

4 0. HOW WILL THE EVALUATION, MEASUREMENT, AND 5 RESULTS UTILIZED IN VERIFICATION BE DEVELOPING 6 **ESTIMATES OR TRUE-UPS FOR THE PROPOSED RIDER?**

7 Α. The EM&V process produces results on two main concepts: actual customer 8 participation and prospective load impact estimations. The reason these are 9 important to the proposed rider is that the original evaluation of program cost-10 effectiveness utilized projected numbers for participants in the programs and 11 estimates of the load impacts. The participant and initial load impact information 12 is used to develop estimates of the achievement level that is used to determine the incentive amounts included in the rider. The Company will measure actual 13 14 participation as an input into the EM&V process and will use this actual 15 participation information as the basis for annual true-ups of estimated incentives 16 for the proposed rider by multiplying this participation by the initial estimates of 17 the load impacts which will be used for the first year or until updated EM&V 18 results are available and finalized. Once EM&V has been conducted and 19 finalized for any particular program, the estimates of energy efficiency impacts 20 and free ridership levels which are an output of this EM&V process, will be used 21 prospectively to adjust subsequent impact assumptions. For the purpose of the 22 annual rider, if available at the time of the rider, the actual EM&V load impacts 23 will be applied to the rider from the first day of the following month they were

received. These results will also be used to estimate future target achievement
 levels for development of estimated incentives, and in future cost-effectiveness
 evaluations.

4 Q. ARE YOU FAMILIAR WITH THE COMMISSION'S RULES ON 5 ENERGY EFFICIENCY?

- A. Yes, it is my understanding that the Commission has issued an entry establishing
 a procedure for the development of protocols for the measurement and
 verification of energy efficiency and peak demand reduction measures, and on
 September 30, 2009 the Commission approved the selection of VEIC to develop
 the TRM (Technical Reference Manual).
- 11 The Commission also hired an independent program evaluator to verify energy 12 savings and peak demand reductions as a result of the utilities EM&V reports.
- 13 On August 6, 2010 a draft TRM was issued by VEIC. Replies from VEIC to joint
- objections and comments to the August 6, 2010 Draft Technical Reference
 Manual from Ohio Electric Distribution Utilities and IEU, Ohio Gas Utilities,
- 16 Ohio Consumers' Council and other advocacy groups, and OPower, INC were 17 filed on November 15th.
- 18 Q. HAS THE TRM BEEN ADOPTED BY THE PUCO?
- A. According to the response from VEIC in the November 15th reply, the effective
 date of the TRM has been deferred to the Commission.

21 III. MODELING AND COST EFFECTIVENESS RESULTS

- 22 Q. WHAT IS THE DSMore[™] MODEL?
- 23 A. DSMore[™] is a financial analysis tool designed to evaluate the costs, benefits, and

risks of energy efficiency programs and measures. DSMoreTM is used as a 1 2 planning tool to forecast the value of an energy efficiency measure at an hourly 3 level across distributions of weather and/or energy costs or prices. By examining 4 energy efficiency performance and cost effectiveness over a wide variety of 5 weather and cost conditions, the Company is in a better position to measure the risks and benefits of employing energy efficiency measures in the same way 6 7 traditional generation capacity additions are vetted, and further, to ensure that demand-side resources are compared to supply-side resources on a level playing 8 9 field.

The analysis of energy efficiency cost-effectiveness has traditionally
focused primarily on the calculation of specific metrics, often referred to as the
California Standard tests: Utility Cost Test (UCT), Ratepayer Impact Measure
(RIM) Test, Total Resource Cost (TRC) Test, Participant Test, and Societal Test.
DSMore[™] provides the results of those tests for any type of energy efficiency
program (demand response and/or energy saving).

The DSMoreTM model has been used for DSM program cost-effectiveness
evaluation by the Company for several years, including for the calculation of
projected lost revenues for inclusion in certain of the cost effectiveness tests. It
was a key component in the process of developing revenue requirements in the
Company's energy efficiency proposal in 08-920-EL-SSO, which was approved
by the Commission.

22DSMore™ is currently used within 30 States by utilities and regulators23alike. It has been favorably reviewed independently by Nick Hall, TecMarket

1		Works, who has over 30 years experience in the energy efficiency evaluation
2		industry, and currently leads evaluation for the President's ARRA-funded
3		program portfolio and the Department of Energy (USDOE). DSMore TM is
4		widely used due to the fact that it produces more accurate valuations on avoided
5		costs and lost revenues than alternative approaches which over-rely on the
6		simplistic averaging of hourly load reductions and hourly avoided costs. The
7		Company's IRP modeling process does not employ a simplistic averaging of
8		loads or prices, so the Company prefers to value DSM programs on the same level
9		(hourly) playing field as competing supply side options.
10		Generally, the DSMore [™] model requires the user to input specific
11		information regarding the energy efficiency measure or program to be analyzed as
12		well as the cost and rate information of the utility. These inputs enable one to
13		then analyze the cost effectiveness of the measure or program.
14	Q.	WHAT ENERGY EFFICIENCY PROGRAM OR MEASURE
15		INFORMATION IS INPUT INTO THE MODEL?
16	А.	The information required on an energy efficiency program or measure includes,
17		but is not limited to:
18		 Number of program participants, including free ridership or free
19		drivers;
20		 Projected program costs, contractor costs and/or administration
21		costs;
22		 Customer incentives, demand response credits or other incentives;

1		 Measure life, incremental customer costs and/or annual
2		maintenance costs;
3		 Load impacts (kWh, kW and the hourly timing of reductions); and
4		 Hours of interruption, magnitude of load reductions or load floors.
5	Q.	WHAT UTILITY INFORMATION IS INPUT INTO THE MODEL?
6	А.	The utility information required for the model includes, but is not limited to:
7		 Discount rate;
8		 Loss ratio, either for annual average losses or peak losses;
9		• Rate structure, or tariff appropriate for a given customer class for a
10		given jurisdiction;
11		• Avoided costs of energy, capacity, transmission & distribution; and
12		 Cost escalators
13		
14	Q.	HOW ARE PROGRAMS OR MEASURES MODELED?
15	А.	An analyst or program manager develops the inputs for the program or measure
16		using information on expected program costs, load impacts, customer incentives
17		necessary to drive customers' participation, free rider expectations, and expected

- 17 necessary to drive customers' participation, free rider expectations, and expected 18 number of participants. This information is used in initial runs of the model to 19 determine cost-effectiveness and whether adjustments need to be made to a 20 program or measure in order for it to pass the participant test, the first critical test.
- The load impacts of the program or measure may be analyzed as a percent of savings reduction from the current level of use, as proportional to the load shape for the customer, or as an hourly reduction in kWh and/or kW. These

approaches apply to energy saving programs and measures. For demand response
 programs, the analyst must provide information on the amount of the expected
 load reduction and the expected timing of the reduction.

4 Q. WHAT IS THE SOURCE OF THE DATA FOR THE PROGRAM OR 5 MEASURE?

6 A. Program managers and analysts develop the inputs for each program or measure 7 from industry information derived from sources such as Electric Power Research 8 Institute (EPRI), Energy Star, E-Source, other utility program information and 9 evaluations, contiguous state Technical Reference Manuals (TRMs), engineering 10 building simulation models, as well as from external experts in the industry. Over 11 time, as impact and process evaluations are performed on Ohio programs, 12 information and input specifically related to Ohio customers will begin to emerge 13 and be used within future cost-effectiveness analyses.

14 IV. <u>COST-EFFECTIVENESS TESTS</u>

15 Q. PLEASE DESCRIBE HOW ENERGY EFFICIENCY PROGRAMS AND 16 MEASURES ARE ANALYZED.

A. The net present value of the financial stream of benefits versus costs is assessed, *i.e.*, the savings or avoided costs are valued against the costs to implement the
measures. The resultant benefit/cost ratios, or tests, provide a summary of the
measure's cost-effectiveness relative to the benefits of its projected load impacts.
As previously mentioned, the Participant Test is the first screen for a program or
measure to make sure a program makes economic sense for the individual
consumer. Duke Energy Ohio also uses the UCT, the TRC, and the RIM Test for

1

a comprehensive screening of energy efficiency measures.

• The Participant Test compares the benefits to the participant through bill 3 savings and incentives from the utility, relative to the costs to the participant 4 for implementing the energy efficiency measure. The costs can include 5 incremental equipment and installation costs as well as increased annual 6 operating cost, if applicable.

7 The UCT compares utility benefits (avoided energy and capacity related 8 costs) to utility costs incurred to implement the program such as 9 administration; marketing, customer incentives, and measure offset costs, 10 and does not consider other benefits such as participant savings or societal 11 This test compares the cost (to the utility) to implement the impacts. 12 measures with the savings or avoided costs (to the utility) resulting from the 13 change in magnitude and/or the pattern of electricity consumption caused by 14 implementation of the program. Avoided costs are considered in the 15 evaluation of cost-effectiveness based on the projected cost of power, 16 including the projected cost of the utility's environmental compliance for 17 known regulatory requirements. The cost-effectiveness analyses also 18 incorporate avoided transmission and distribution costs, and load (line) 19 losses.

• The TRC test compares the total benefits to the utility and to participants 21 relative to the costs to the utility to implement the program along with the 22 costs to the participant. The benefits to the utility are the same as those 23 computed under the UCT. The benefits to the participant are the same as

1		those computed under the Participant Test, however, customer incentives are
2		considered to be a pass-through benefit to customers. As such, customer
3		incentives or rebates are not included in the TRC though some precedent
4		exists in other jurisdictions to consider non-energy benefits in this test.
5		• The RIM Test, or non-participants test, indicates if rates increase or decrease
6		over the long-run as a result of implementing the program.
7		The use of multiple tests can ensure the development of a reasonable set of
8		energy efficiency programs, indicate the likelihood that customers will
9		participate, and also protect against cross-subsidization. It should also be noted
10		that none of the tests described above include external benefits to participants and
11		non-participants that can also offset the costs of the programs.
12	Q.	WHAT WERE THE RESULTS OF THE PROGRAM ANALYSIS?
13	А.	The Company analyzed and has been approved for the following set of cost-
14		effective Ohio DSM programs:
15		
16		RESIDENTIAL CUSTOMER PROGRAMS
17		Residential Conservation
18		 Smart \$aver[®] Residential
19		 Home Energy Comparison Report
20		 Residential Energy Assessments
21		 Energy Efficiency Education Program for Schools
22		 Low Income Services
23		Residential Demand Response

1		 Power Manager
2		NON-RESIDENTIAL CUSTOMER PROGRAMS
3		Non-Residential Conservation
4		Non-Residential Energy Assessments
5		• Smart \$aver [®] for Non-Residential Customers
6		Non-Residential Demand Response
7		• PowerShare [®]
8		The Company analyzed and is seeking approval for the following set of cost-
9		effective Ohio DSM programs:
10		 Appliance Recycling
11		 Low Income Neighborhood Program
12		 Home Energy Solutions
13		The table attached hereto as Attachment AJO 3, contains the cost-
14		effectiveness test results for each program in the approved portfolio. In general,
15		the customer programs pass the UCT, TRC, and the RIM test. Development of
16		these programs involved analyzing numerous measures.
17		Details regarding the three newly proposed programs are provided in Duke
18		Energy Ohio witnesses Casey Mather's direct testimony, and cost-effectiveness
19		test results for these programs are provided in Attachment AJO 4.
20	Q.	WHAT ARE THE PROJECTED LOAD IMPACTS FROM THE
21		APPROVED PORTFOLIO OF PROGRAMS?
22	А.	The projections of five year cumulative annual impacts from the DSMore TM
23		valuation process are outlined in Attachment AJO 5.

ASHLIE J. OSSEGE DIRECT

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1	Q.	WHAT ARE THE PROJECTED LOAD IMPACTS FROM THE
2		PORTFOLIO OF PROPOSED PROGRAMS?
3	А.	The projections of five year cumulative annual impacts from the DSMore™
4		valuation process are outlined in Attachment AJO 6.
5	Q.	WHAT DATA WAS USED IN THE CALCULATION OF THE REVENUE
6		REQUIREMENT PROVIDED TO WITNESS ZIOLKOWSKI?
7	A.	The revenue requirement was calculated using both data inputs and outputs from
8		the DSMore model including estimated energy savings, program costs and
9		avoided costs. In addition, measurement and verification costs, which are not part
10		of the DSMore TM model are also included in the calculation of revenue
11		requirements.
12		
13		V. CONCLUSION
14	Q.	WERE ATTACHMENTS AJO 1 – 6 PREPARED BY YOU OR AT YOUR
15		DIRECTION?
16	А.	Yes, they were.
17	Q.	DOES THIS CONCLUDE YOUR TESTIMONY?

18 A. Yes, it does.

AJO Attachment 1

Proposed Evaluation Approach for Duke Energy Ohio's Proposed New Programs

Residential Programs

Appliance Recycle provides appliance recycling services to residential customers by providing an incentive to customers that turn in their primary and/or secondary working refrigerator or freezer for recycling. The program takes inefficient kWhs off the system and also responsibly handles the hazardous materials used in the older refrigerators or freezers. The impact evaluation will use a participant actions-based approach to evaluate the energy impacts of the program, linked to a new and used market effects impact adjustment for estimating net gridbased energy impacts. This assessment will also include an in situ metering assessment to determine the energy consumption of the appliance collected from the home. The process evaluation will consist of a review of the program operations and practices, including its management practices, marketing materials and efforts, processing of units, including the pickup and handling of the units, the scheduling systems and approaches and tracking and reporting systems. The evaluation will also assess the participant screening approach used during customer contact and scheduling efforts to make sure that the screening approach filters out or appropriately limits participation from customers who would have effectively disposed of their units without the program. A process evaluation of this program will be conducted annually within the Residential Programs Process Review. This evaluation plan is consistent with IPMVP Option A.

Low Income Neighborhood Program The Low Income Neighborhood Program will recruit participants through community engagement activities. A community-based kick-off event will be held for targeted neighborhoods, followed by energy assessments completed in the customers' homes and the appropriate energy saving measures will be installed. Customers will receive education on the proper use of the installed measures, as well as energy saving tips they can adopt to help lower their energy costs. The evaluation of the Low Income Neighborhood Program incorporates two different types of evaluation efforts into one combined, coordinated study which includes a process and impact evaluation. The process evaluation will comply with Ohio M&V EE protocols for evaluation and will focus on assessing Duke Energy's Low Income Neighborhood Program operations. The process evaluation will include program management, program implementation staff and any third party contractors assisting with the program operations. Participant surveys will also be conducted to assess customer satisfaction, Duke Energy partner communications and staff, their interactions and expectations with the partners, satisfaction with the services and measures provided and questions about behavioral changes made to reduce consumption. The process evaluation report will then make recommendations for program improvements. This effort includes assessing the way in which the program is designed, marketed, and implemented, drivers for participant satisfaction with the program operations and

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offerings, and other investigative areas. An impact evaluation will be developed after program participation is gauged in the summer of 2012. With sufficient participants a billing analysis will be conducted where energy use for each customer will be analyzed before and after their participation. If participation is lower than expected, savings estimates based on engineering algorithms and participant survey responses will be conducted.

Home Energy Solutions The Home Energy Solutions Program will provide those Duke Energy residential customers with Smart Metering installed with an integrated energy management system. To qualify for participation, customers need to reside in individually-metered, owner-occupied, single-family residences receiving concurrent service from Duke Energy. In addition, customers are required to have a broadband internet connection, central heating/AC system and 12 months of historical energy usage information.

The evaluation of the Home Energy Solutions Program incorporates two different types of evaluation efforts into one combined, coordinated study, which include a process and impact evaluation. These two types of evaluations will be coordinated and planned in a way that allows for independent evaluation planning at the program level. The process evaluation will comply with Ohio M&V EE protocols for evaluation and will focus on assessing Duke Energy's Home Energy Solutions Program operations with in-depth interviews via phone or in person with program management, IT Staff, and any third party contractors assisting with the development or operations. The evaluation will make recommendations for program improvements. This effort includes assessing the way in which the program is designed, marketed, and implemented, drivers for participant satisfaction with the program operations and offerings, and other investigative areas. In addition, participant surveys will be conducted with a sampling strategy that provides statistically significant results and is typically dictated by the number of respondents. The impact evaluation that will identify the net energy savings and the kW shift or reduction provided by the Home Energy Solution Program will be conducted by Duke Energy with oversight and validation by Integral Analytics staff, a subcontractor for TecMarket Works. This impact evaluation will also work with the process evaluation to identify conditions that may have influenced the program's impacts.

AJO Attachment 2

Program	Evaluation Type	Earliest Timeframe for Report – Months after program start	Latest Timeframe for Report – Months after program start
Appliance Recycling Brogram	Process	6	24
Appliance Recycling Frogram	Impact	12	24
Low Income Neighborhood Drogram	Process	6	24
Low income Neighborhood Program	Impact	12	24
Home Energy Solutions	Process	6	24
Tome Energy Solutions	Impact	18	24

Expected Timeframes for Completion of Evaluations of New Programs

	Program	n Cost Effec	tiveness Tet	st Results**
	Utility Test	TRC Test	RIM Test	Participant Test
RESIDENTIAL CUSTOMER PROGRAMS				
 Energy Education Program for Schools 	2.35	3.64	1.52	NA
 Home Energy Comparison Report 	2.48	2.48	1.53	NA
Low Income Services	1.26	4.69	0.92	NA
• PowerManager	3.98	4.75	3.98	NA
 Residential Energy Assessments 	2.83	3.04	1.68	NA
 Smart \$aver Residential 	3.00	2.61	1.82	3.88
NON-RESIDENTIAL CUSTOMER PROGRAMS				
 Smart \$aver Non Residential Custom 	4.90	1.23	2.81	1.45
• Power Share	4.05	7.83	4.05	NA
Smart \$aver Non Residential Prescriptive	5.80	2.59	3.41	2.68

**Cost Effectiveness is calculated on NPV for life of measure

	Program	n Cost Effec	tiveness Te	st Results**
	Utility Test	TRC Test	RIM Test	Participant Test
RESIDENTIAL CUSTOMER PROGRAMS				
Appliance Recycling Program	3.59	4.25	1.99	NA
Home Energy Solutions	1.59	2.35	1.44	4.29
 Low Income Neighborhood Program 	1.33	2.31	1.02	NA

**Cost Effectiveness is calculated on NPV for life of measure

AJO Attachment 5

		Gross Cumulativ	ve Summer Colncia	ent kW w/losses	······································
Program Name	2012	2013	2014	2015	2016
Energy Education Program for Schools	911	1,821	2,927	4,033	5,138
Home Energy Comparison Report	11,277	11,360	11,452	11,544	11,659
Low Income Services*	24	48	72	96	120
PowerManager	58,219	60,136	60,135	60,232	60,485
Residential Energy Assessments	1,285	2,570	3,855	5,140	6,425
Smart Şaver Residential	6,068	11,083	16,137	20,944	26,353
Smart \$aver Non Residential Custom	3,895	7,984	12,278	16,787	21,521
Power Share	47,373	51,112	56,454	61,796	67,138
Smart \$aver Non Residential Prescriptive	14,188	25,469	32,760	43,762	55,863
* Includes refrigerator replacement only					

		Gross	Cumulative kWh w	/losses	
Program Name	2012	2013	2014	2015	2016
Energy Education Program for Schools	3,384,679	6,769,357	10,879,324	14,989,291	19,099,257
Home Energy Comparison Report	41,917,723	42,224,529	42,565,839	42,908,729	43,337,816
Low Income Services*	176,220	352,440	528,660	704,880	881,100
PowerManager	0	0	0	0	0
Residential Energy Assessments	9,122,437	18,244,874	27,367,311	36,489,748	45,612,185
Smart \$aver Residential	35,772,263	59,684,106	81,421,540	98,048,753	116,695,554
Smart \$aver Non Residential Custom	34,120,477	69,946,977	107,564,803	147,063,519	188,537,172
Power Share	0	0	0	0	0
Smart Şaver Non Residential Prescriptive	65,843,647	118,283,250	153,796,791	206,243,747	263,932,781
* Includes refrigerator replacement only					

		Cu	imulative Participa	nts	
Program Name	2012	2013	2014	2015	2016
Energy Education Program for Schools	14,000	28,000	45,000	62,000	79,000
Home Energy Comparison Report	245,209	247,003	249,000	251,006	253,516
Low Income Services*	140	280	420	560	700
PowerManager	49,492	51,122	51,121	51,203	51,418
Residential Energy Assessments	4,250	8,500	12,750	17,000	21,250
Smart \$aver Residential	522,373	825,249	1,078,009	1,232,008	1,416,031
Smart \$aver Non Residential Custom	5,306	10,877	16,727	22,870	29,319
Power Share	44	48	53	58	63
Smart Saver Non Residential Prescriptive	322,417	621,737	892,688	1,196,009	1,529,637
* Includes refrigerator replacement only					

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		An	nual Total Utility C	osts	
Program Name	2012	2013	2014	2015	2016
Energy Education Program for Schools				• • • • • • • • • • • • • • • • • • •	
Home Energy Comparison Report					
Low Income Services*					
PowerManager					
Residential Energy Assessments					
Smart \$aver Residential					
Smart \$aver Non Residential Custom					
Power Share					
Smart \$aver Non Residential Prescriptive					
* Includes refrigerator replacement only	Г				

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		Gross Cumulativ	e Summer Coincide	ent kW w/losses	
Program Name	2012	2013	2014	2015	2016
Appliance Recycling Program	1,517	3,480	5,669	7,858	10,046
Home Energy Solutions	1,846	14,093	31,263	46,894	62,369
Low Income Neighborhood Program	339	679	1,018	1,358	1,697
				1	

		Gross (umulative kWh w	llosses	
Program Name	2012	2013	2014	2015	2016
Appliance Recycling Program	5,638,971	12,935,064	21,070,815	29,206,566	37,342,318
Home Energy Solutions	843,112	6,435,752	14,276,690	21,415,034	28,481,949
Low Income Neighborhood Program	1,261,802	2,523,604	3,785,406	5,047,208	6,309,010

		ĉ	mulative Participar	nts	
Program Name	2012	2013	2014	2015	2016
Appliance Recycling Program	3,380	7,751	12,626	17,501	22,376
Home Energy Solutions	2,880	21,984	48,768	73,152	97,292
Low Income Neighborhood Program	1,339	2,678	4,017	5,356	6,695

		An	nual Total Utility C	osts	
Program Name	2012	2013	2014	2015	2016
Appliance Recycling Program	• • • •				
Home Energy Solutions					
Low Income Neighborhood Program					
	i				

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Application of Duke Energy Ohio, Inc. to Revise its Energy Efficiency Rider and for Approval of New Energy Efficiency Programs.

Case No. 11-4393-EL-RDR

DIRECT TESTIMONY OF

KEVIN A. BRIGHT

ON BEHALF OF

DUKE ENERGY OHIO, INC.

July 20, 2011

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I. <u>INTRODUCTION</u>

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevin A. Bright, and my business address is 139 East Fourth Street,
Cincinnati, Ohio 45202.

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

A. I am employed by Duke Energy Business Services LLC (DEBS) as Managing
Director of Large and Small Business Marketing Strategy and Product
Management. DEBS provides various administrative and other services to Duke
Energy Ohio, Inc., (Duke Energy Ohio or the Company) and other affiliated
companies of Duke Energy Corporation (Duke Energy).

10Q.PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL11EXPERIENCE.

12 I received a Bachelor of Science degree in Marketing from Northern Kentucky Α. 13 University, a Master of Business Administration from Northern Kentucky 14 University, and also am a Certified Energy Manager through the Association of Energy Engineers. I have held various positions throughout Duke Energy and its 15 16 predecessor companies, including roles in Strategic Planning, Corporate 17 Development, Budget & Forecasting, Customer Service and Non-Regulated 18 Operations. I joined the Marketing organization in 2008 to manage Duke 19 Energy's commercial and industrial demand response programs. In 2009, I 20 assumed managerial responsibility for all energy efficiency products. In 2010, I 21 took over management of all non-residential products and strategy, which is still

1 my current area of responsibility.

2 PLEASE DESCRIBE YOUR DUTIES AS MANAGING DIRECTOR OF 0. LARGE AND SMALL BUSINESS MARKETING STRATEGY AND 3 4 PRODUCT MANAGEMENT.

5 My team and I oversee the operation of our energy efficiency products to ensure Α. 6 they are delivered to customers cost effectively and efficiently. This involves 7 managing contracts with external parties, monitoring the mix of incentives 8 included in the portfolio, and planning strategies for raising customer awareness 9 of the incentives offered. We work with external engineering firms to assist with 10 developing costs for incentive measures, as well as guidance on incentives offered 11 by other utilities to aid in the evaluation of cost effectiveness. We are constantly 12 evaluating the number of incentive applications being submitted, types of technologies customers are employing, and evaluating strategies to increase 13 14 adoption rates by customers. This also includes periodic reviews of the measures 15 included in offerings to customers to ensure our portfolio of offers stays current 16 with technology changes in the marketplace and updated efficiency standards.

17 HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC 0. **UTILITIES COMMISSION OF OHIO?** 18

19 No. A.

II. DISCUSSION

20 WHAT IS THE PURPOSE OF YOUR TESTIMONY IN О. THIS 21 **PROCEEDING?**

22 The purpose of my testimony in this proceeding is to explain the current commercial A.

and industrial energy efficiency portfolio offered by Duke Energy Ohio and to
 explain some of the marketing strategies being employed to raise awareness of the
 value of energy efficiency investments with customers.

5

4

Q. WHAT ENERGY EFFICIENCY (EE) AND DEMAND RESPONSE PROGRAMS DOES DUKE ENERGY OHIO CURRENTLY OFFER?

6 A. Duke Energy Ohio's non-residential energy efficiency offers consist of our 7 Smart\$aver® for Non-Residential Customers, Non-Residential Energy Assessments 8 and PowerShare[®]. These programs were previously approved by the Commission in 9 Duke Energy Ohio's save-a-watt proceeding, but a brief description of each program 10 is provided below for convenience. Throughout this document, Smart\$aver® for 11 Non-Residential Customers will be referred to as Smart\$aver® Prescriptive and/or 12 Smart\$aver® Custom. Non-Residential Energy Assessments will be referred to as Smart\$aver® Energy Assessments. The program naming convention being used 13 14 throughout this document is consistent with the naming conventions used internally 15 and externally with customers. Lastly, I will provide an overview of Duke Energy 16 Ohio's Self-Direct program to comply with PUCO Order in Case No. 10-834-EL-17 POR.

18 <u>Smart\$aver® Prescriptive</u>

19 The Smart\$aver® Prescriptive program consists of over 250 measures covering the 20 five broad technology categories of: Lighting, HVAC, Motors/Pumps/Drives, 21 Energy Star Food Service Equipment, and Process Equipment. The incentives 22 offered are designed to offset a portion of the capital cost of moving to higher 23 efficiency equipment. The incentive amounts are known to the customer before they

KEVIN A. BRIGHT DIRECT

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undertake their project, so the customer can proceed with their project and submit
 documentation after installation. Cost effectiveness for the previously approved
 portfolio of incentives is included in Exhibit AJO 3, and participant & cost data is
 provided in Exhibit AJO 5 for reference.

5

<u>Smart\$aver® Custom</u>

6 The Smart\$aver® Custom program is intended to capture quantifiable energy 7 savings from projects that do not fit into the Prescriptive portfolio. A key difference 8 between the Prescriptive and Custom programs is that the Custom program requires 9 that the customer submit an application before they begin their project. Once a 10 project is submitted, it undergoes a technical review to validate the viability of the 11 technology and the reasonableness of the energy savings claims. After the technical 12 review, the energy savings are modeled against the customers load profile (or a 13 representative load profile) to calculate the avoided energy and avoided capacity 14 associated with the installation. At this point, the customer is tendered an incentive 15 offer. Provided the customer acknowledges acceptance of the offer and completes 16 the project, upon verification of the installation, the customer is issued an incentive 17 check in the amount originally tendered. Duke Energy Ohio reserves the right to 18 adjust the incentive amount paid either up or down should the installation deviate 19 from what was originally submitted. Potential incentive amounts are unbounded and 20 are based on the avoided energy and avoided capacity produced by the measure(s). 21 Both the Smart\$aver® Prescriptive and Custom programs allow for customers to

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KEVIN A. BRIGHT DIRECT

either receive their incentive checks directly, or to assign them to a vendor, provided

the vendor reduces the amount invoiced to the customer by the amount of the

1 incentive.

2 SmartSaver® Energy Assessments

3 Duke Energy Ohio offers several different types of assessments to help customers identify energy efficiency opportunities. The Online Assessment tool is available 4 5 for all non-residential customers through the Duke Energy Ohio website. This tool 6 is available free of charge. For customers with a peak demand over 500 kW, we 7 offer a Telephone Assessment for free. The assessor will gather basic data from the 8 customer and provide recommendations over the phone based on experience and 9 information provided during the interview. Lastly, Duke Energy Ohio offers an On-10 Site Assessment wherein an assessor will spend one or more days at a customer's 11 site identifying opportunities for increased energy efficiency. After the audit is 12 completed, the customer receives a written report of the audit findings. The cost of 13 the On-Site Assessment varies depending on the length of time an assessor spends at 14 a customer's facility. The cost of the audit is shared by Duke Energy Ohio and the 15 customer. The customer pays 50% of the cost, and Duke Energy Ohio pays 50%, 16 but the customer's cost can be further reduced if they proceed with adopting the 17 recommendations made in the audit.

After evaluating the success of the current audits, Duke Energy Ohio is trying new approaches to drive adoption of energy efficiency through audits. One such approach is Smart Building Advantage (SBA). SBA is a more comprehensive audit that addresses the entire operation of a building, as opposed to targeting end use equipment. In addition, the audit requires commitment from the customer to proceed with recommendations before the audit is conducted, provided

predetermined payback criteria are met. In a similar vein, Duke Energy Ohio is testing technology specific audits. The purpose is to help customers identify strategies targeted at their most energy intensive processes, provide them with concrete cost estimates to implement the recommendations, and connect the customer with vendors that deliver the energy efficiency improvements.

6 <u>PowerShare®</u>

7 PowerShare® is Duke Energy Ohio's demand response program offered to 8 commercial and industrial customers. The program offers various options for 9 customers to choose from. PowerShare® QuoteOption is offered for customers who 10 only want to reduce their load when power prices are high. In this program, 11 customers receive notice of a price offer from Duke Energy Ohio to reduce load. 12 Based on the price offered, the customer makes the decision as to whether or not 13 they will reduce load. If a customer elects not to reduce load, there are no penalties 14 for declining participation in the event. Participation is purely voluntary. The 15 customer only receives a credit for the number of kilowatt-hours they reduced during 16 the event, multiplied by the price offered by Duke Energy Ohio.

Customers may also participate in the CallOption program. Under the CallOption program, customers receive a monthly credit for providing Duke Energy Ohio with the right to call on the customers load during emergency situations. Each of the CallOption offers contain an Emergency provision wherein the customer agrees to provide a minimum number of interruptions for curtailments initiated by the Regional Transmission Operator (MISO or PJM). The minimum number of events is dictated by the RTO. But the customer also has the option to agree to provide

1 load for Economic events. Under the CallOption program, the customer agrees to a 2 predetermined price at which Duke Energy Ohio has the right, but not the obligation, 3 to initiate an event. If an Economic event is called, the customer receives an energy 4 credit for reducing load during the event that is equal to the predetermined price for 5 energy, less the base cost of energy that is embedded in their rate. Only Standard 6 Service Offer customers of Duke Energy Ohio may participate in the Economic 7 events. All Duke Energy Ohio non-residential customers may participate in the Emergency program, provided they can meet the minimum contractual load 8 9 reduction commitment of 100 kW.

10 Duke Energy Ohio is currently conducting a pilot for an Automated Demand 11 Response program that is targeted toward retail and commercial properties. At this 12 point, customers are being solicited to participate in the program.

13 <u>Mercantile Self-Direct</u>

The Duke Energy Ohio Self-Direct program is proposed in accordance with PUCO Ruling 4901:1-39-05(G) and Order 10-834-EL-POR. Mercantile and national/regional accounts customers with aggregate annual usage of 700,000 KWh or greater are eligible for the program.

18 These customers may elect to commit energy savings or demand reductions to 19 Duke Energy Ohio's benchmark achievements from projects completed in the 20 prior three calendar years provided they did not apply for Duke Energy 21 Smart\$aver® incentives when they completed the project. In exchange for 22 committing their energy savings or demand reductions to Duke Energy Ohio, the 23 customer may either receive an incentive offer or avoid paying for Duke Energy

1 Ohio's energy efficiency rider. In return, Duke Energy Ohio will assist the 2 customer in filing an application with the PUCO for approval of a portion of the 3 incentive the customer would have received had they participated in Duke Energy 4 Ohio's standard Smart\$aver® Prescriptive or Custom programs.

5 Where applicable, customers that accept a Self-Direct rebate and were opted out 6 of the energy efficiency rider or that paid a lesser rider rate at the time of project 7 completion will be invoiced for the differential in rider charges from the point in 8 time of project completion to present and will continue paying the full rider 9 amount going forward.

10 The channels for Mercantile Self-Direct project applications closely resemble 11 those of the SmartSaver® Prescriptive and SmartSaver® Custom programs, based 12 on applicability, as described in further sections of this testimony. However, 13 upon completion of project administrative and technical review, an offer contract 14 letter is provided to the applicant. Upon applicant acceptance of the offer and 15 agreement to the terms and conditions of the Mercantile Self-Direct program, 16 Duke Energy Ohio will submit an Application to Commit Energy Efficiency/Peak 17 Demand Reduction Programs to the PUCO on behalf of the customer. Upon 18 approval of the application, as defined by PUCO rulings, Duke Energy Ohio 19 processes the rebate payment.

Rebates tendered to customers for Self-Direct projects eligible for a cash rebate reasonable arrangement will be a percentage of the dollar amount that would apply to the same project if evaluated in the Smart\$aver® Prescriptive & Custom programs. Where measures are ineligible for a cash rebate arrangement
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customers may receive a commitment payment, as defined by PUCO.

2 Marketing strategies for the Mercantile Self-Direct program will include direct 3 outreach to eligible customers via account management and business strategy 4 personnel as well as trade ally outreach. Additionally, application and marketing 5 collateral will be developed and the program will be represented on the Duke 6 Energy Ohio website.

7 Self Direct Prescriptive

8 The Self-Direct Prescriptive program provides rebates for mercantile customers 9 that implement energy efficiency and/or demand reductions projects to install 10 higher efficiency equipment. Major categories include lighting, motors, pumps, 11 VFD's, food service and process equipment. Eligible measures are reflective of 12 the Smart\$aver® Prescriptive Incentive portfolio. Additionally, projects 13 completed for measures that were removed from the Prescriptive portfolio due to 14 changes in market standards, minimum code requirements and federal/state 15 minimum efficiency legislation will be eligible for rebate if the projects were 16 completed before the measure was removed from the Prescriptive portfolio. 17 While many of the measures recorded under the Smart\$aver® Prescriptive 18 program will remain Prescriptive in nature under the Self-Direct program, in 19 accordance with PUCO rulings on the mercantile program, certain measures must 20 be evaluated under the Self-Direct Custom program to enable the use of as-found 21 baseline.

22 Self Direct Custom

23 The Self-Direct Custom program offers rebates for completed mercantile projects

1 involving more complicated scopes, unique technologies or measures not covered 2 by Self-Direct Prescriptive rebates that resulted in improvements of facility 3 electrical energy efficiency. A proposed energy efficiency measure may be 4 eligible for a Self-Direct Custom Rebate if it clearly reduces electrical 5 consumption and/or demand. Unlike the Smart\$aver® Custom program. 6 measurable and verifiable behavioral and operational measures are eligible.

7 In accordance with PUCO rulings, the Self-Direct Custom Rebate program also 8 offers rebates for replacement of failed equipment using the failed equipment, as 9 opposed to the market standard choice at time of failure, as the baseline. Such 10 projects would be eligible for commitment payment and ineligible for a cash 11 This applies equally to the replacement of rebate reasonable arrangement. 12 equipment that is at or beyond its useful life as well as behavioral/operational 13 measures with sufficient associated cost.

14 WHY IS THERE CURRENTLY A DIFFERENT DR-SAW RIDER COST **Q**.

15 AMOUNT FOR RATE TS CUSTOMERS THAN FOR ALL OTHER NON-

16 **RESIDENTIAL CUSTOMERS?**

17 Α. During the application for approval of the save-a-watt proceeding, the Company 18 worked to reach agreement with all intervening parties. One such represented group 19 consisted of the industrial customers served under Rate TS. Rate TS customers take 20 service at transmission level voltages. This group of customers contended that 21 because energy is such a substantial portion of their operating costs, that they had 22 already implemented all cost effective energy efficiency measures and therefore 23 should not be subject to the DR-SAW rider. As a compromise to reach a settlement

KEVIN A. BRIGHT DIRECT 10

1 with this group, the Company agreed to a lower rate for this customer class.

2 Q. WOULD YOU RECOMMEND THAT THIS RATE FOR TS CUSTOMERS 3 BE CONTINUED IN THIS FILING?

4 A. This customer class, while small in number of customers, represents No. 5 approximately 9% of Duke Energy Ohio's kWh system throughput for nonresidential customers. In order for Duke Energy Ohio to meet the energy and 6 7 demand reduction requirements under Senate Bill 221, energy efficiency 8 improvements by these customers are needed. In addition, with the adoption of the 9 Self-Direct program, there is now a vehicle in place for these customers to receive 10 incentives for energy efficiency improvement projects that were previously 11 completed. Lastly, for those customers who can demonstrate that they have 12 implemented projects generating energy and demand reductions in excess of Duke 13 Energy's mandated reduction requirements under Senate Bill 221, they can apply to 14 avoid paying any energy efficiency rider costs, as any other Mercantile customer 15 can.

16 Q. IF A RATE TS CUSTOMER APPLIED FOR A SELF-DIRECT
 17 INCENTIVE, WOULD YOU HANDLE IT ANY DIFFERENTLY THAN
 18 PRESENTED ABOVE?

A. Yes. In exchange for receiving a reduced rate under Rider DR-SAW, these
customers agreed to not receive any incentives for energy efficiency projects they
completed. Since these customers paid a significantly lower rate for Rider DRSAW, they received a direct benefit during the 3-year term of the save-a-watt
program. If a Rate TS customer wants to submit for an incentive payment under the

1 Self-Direct program, Duke Energy Ohio will calculate the incentive amount per the 2 methods previously described, but will then calculate the amount that the customer 3 would have paid for Rider DR-SAW if they had taken advantage of the incentives under the save-a-watt program from the time the project was installed until 4 5 12/31/2011. The amount of savings realized by the customer from avoiding paying 6 the non-residential DR-SAW rider will be subtracted from the calculated incentive 7 amount. The net incentive calculated will then be tendered to the customer under 8 the Self-Direct program.

III. CONCLUSION

9 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

10 A. Yes.

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Application of Duke Energy Ohio, Inc. to Revise its Energy Efficiency Rider and for Approval of New Energy Efficiency Programs

Case No. 11-4393-EL-RDR

DIRECT TESTIMONY OF

JAMES E. ZIOLKOWSKI

ON BEHALF OF

DUKE ENERGY OHIO, INC.

July 20, 2011

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I. INTRODUCTION

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is James E. Ziolkowski, and my business address is 139 East Fourth
Street, Cincinnati, Ohio 45202.

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

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

9 Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL 10 EXPERIENCE.

A. I received a Bachelor of Science degree in Mechanical Engineering from the U.S.
 Naval Academy in 1979 and a Master of Business Administration degree from
 Miami University in 1988. I am also a licensed Professional Engineer in the state
 of Ohio.

15 After graduating from the Naval Academy, I attended the Naval Nuclear 16 Power School and other follow-on schools. I served as a nuclear-trained officer 17 on various ships in the U.S. Navy through 1986. From 1988 through 1990, I 18 worked for Mobil Oil Corporation as a Marine Marketing Representative in the 19 New York City area.

I joined The Cincinnati Gas & Electric Company (CG&E) in 1990 as a
 Product Applications Engineer, in which capacity I designed and managed some
 of CG&E's demand side management programs, including Energy Audits and

JAMES E. ZIOLKOWSKI DIRECT

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Interruptible Rates. From 1996 until 1998, I was an Account Engineer and worked with large customers to resolve various service-related issues, particularly in the areas of billing, metering, and demand management. In 1998, I joined Cinergy Services, Inc.'s, Rate Department, where I focused on rate design and tariff administration. I was significantly involved with the initial unbundling and design of CG&E's retail electric rates. I was appointed to my current position in January 2008.

8

Q. PLEASE DESCRIBE YOUR DUTIES AS RATES MANAGER.

9 Α. As Rates Manager, I am responsible for rate design, tariff administration, billing, 10 and revenue reporting issues in Ohio and Kentucky. I also prepare filings to 11 modify charges and terms in retail tariffs of Duke Energy Ohio and Duke Energy 12 Kentucky, Inc., (Duke Energy Kentucky) and develop rates for new services. 13 During major rate cases, I help with the design of the new base rates. I assisted in the development of the retail electric tariffs in the Company's Case No. 03-93-14 15 EL-ATA, which established the Company's market-based standard service offer. 16 Additionally, I frequently work with customer contact and billing personnel of 17 Duke Energy Ohio and Duke Energy Kentucky to answer rate-related questions 18 and to apply the retail tariffs to specific situations. Occasionally, I meet with 19 customers and Company representatives to explain rates or provide rate training. 20 I also prepare reports that are required by regulatory authorities.

21 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC 22 UTILITIES COMMISSION OF OHIO?

23 A. Yes. Most recently, I provided testimony before the Public Utilities Commission of

1 Ohio (Commission) in support of Duke Energy Ohio's application for approval of a 2 Market Rate Offer (MRO), filed under Case Number 10-2586-EL-SSO. I am also a 3 witness in the pending Electric Security Plan case, filed under Case Number 11-4 3549-EL-SSO. 5 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS 6 **PROCEEDING?** 7 Α. The purpose of my testimony in this proceeding is to: (i) describe the calculation of 8 the initial Rider EE-PDR beginning January 2012, (ii) discuss the procedure for 9 reconciling and closing out Rider SAW, and (iii) address annual applications to 10 reconcile Rider EE-PDR. 11 Q. WHAT ARE THE ATTACHMENTS AND SCHEDULES FOR WHICH 12 YOU ARE RESPONSIBLE? 13 I am sponsoring the following items: Α. 14 Attachment JEZ-1 – Work papers showing the calculation of Rider EE-PDRR 15 rates without lost distribution revenue recovery 16 Attachment JEZ-2 - Proposed Rider EE-PDR tariff sheet without lost 17 distribution revenue recovery 18 Attachment JEZ-3 - Proposed Rider EE-PDRR tariff sheet without lost 19 distribution revenue recovery 20 Attachment JEZ-4 - Work papers showing the calculation of Rider EE-PDRR • 21 rates including lost distribution revenue recovery 22 Attachment JEZ-5 - Proposed Rider EE-PDR tariff sheet including lost 23 distribution revenue recovery

Attachment JEZ-6 – Proposed Rider EE-PDRR tariff sheet including lost
 distribution revenue recovery

WHAT IS THE PURPOSE OF RIDER EE-PDR?

II. CALCULATION OF RIDER EE-PDR

3 Q.

A. Duke Energy Ohio is requesting approval of its proposed energy efficiency and
peak demand reduction rider, Rider EE-PDR. This rider will recover costs of
implementing the Company's energy efficiency and peak demand reduction
programs. Rider EE-PDR will also provide a performance-based incentive to the
Company, and as discussed later in my testimony, it could recover lost
distribution revenues.

10 Q. HOW DOES THE COMPANY PROPOSE TO ADDRESS LOST 11 DISTRIBUTION REVENUES?

- 12 Α. As discussed in the testimony of Company witness Timothy J. Duff, the recovery 13 of lost distribution revenue is a critical component of an energy efficiency cost 14 Duke Energy Ohio recently proposed an alternative recovery mechanism. 15 distribution rate recovery mechanism in its Electric Security Plan filing, Case No. 16 11-3549-EL-SSO. The proposed Rider DR in that Case essentially decouples 17 distribution revenues from sales volumes, and will be trued-up each year. If the 18 Commission approves Rider DR in the ESP case, there will be no need to recover 19 lost revenues through Rider EE-PDR. On the other hand, if Rider DR is not 20 approved, the Company requests to recover lost distribution revenues as part of 21 the Rider EE-PDR rate calculation.
- 22 Q. WHY ARE TWO SETS OF TARIFF SHEETS AND WORK PAPERS

JAMES E. ZIOLKOWSKI DIRECT

4

1 BEING SUBMITTED AS PART OF THIS FILING?

2 A. As previously discussed, the Company has asked for approval of a distribution 3 rider in its pending Electric Security Plan case. The Commission's rules explicitly provide for recovery of lost distribution revenue, and if the Commission 4 5 chooses not to approve the proposed distribution rider in the ESP case, Duke 6 Energy Ohio reserves the right to include lost distribution revenue as part of the 7 Rider EE-PDR revenue requirement calculation. One set of work papers and 8 proposed tariff sheets exclude lost distribution revenues from the rate calculation. The other set of work papers and tariff sheets includes lost distribution revenues. 9 10 In the event that Rider DR is not approved in Case No. 11-3549-EL-SSO, the 11 Company requests to implement the set of rates and associated Rider EE-PDR 12 tariff sheets that include lost distribution revenues.

13 Q. WHAT ARE RIDER EE-PDR AND RIDER EE-PDRR?

A. Rider EE-PDR describes the process for calculating the EE-PDR recovery rates.
Rider EE-PDRR shows the actual recovery charges to be billed. This tariff
structure (i.e., two separate tariff sheets) is similar to the existing Riders SAW and
SAWR.

18 Q. PLEASE DESCRIBE HOW THE PROPOSED RIDER EE-PDR 19 RECOVERY RATES WERE CALCULATED.

A. Attachments JEZ-1, JEZ-2, and JEZ-3 are the work papers and proposed Riders without distribution lost revenue recovery. Attachments JEZ-4, JEZ-5, and JEZ-6 are the work papers and proposed Riders that include distribution lost revenue recovery, and are provided in the case that the

1 Commission does not approve the company's electric distribution rider that was 2 proposed in its ESP filing. Attachment JEZ-1 page 1 summarizes the revenue 3 requirement to be recovered through Rider EE-PDRR. The revenue requirement 4 recovers program costs, measurement and verification costs, and incentives. 5 Company witness Ashlie J. Ossege discusses the DSMoreTM model, which 6 includes both input and output data which are incorporated in the calculation of 7 the revenue requirements.

8 Attachment JEZ-1 page 2 shows the kWh sales forecast for 2012 by 9 customer class. Attachment JEZ-1 page 3 shows the residential and non-10 residential revenue requirement, carried over from page 1, to be recovered 11 through Rider EE-PDR. Attachment JEZ-1 page 4 summarizes the kWh billing 12 determinants, residential and non-residential, to be used in the rate calculations. 13 The billing determinants were obtained from page 2. Lastly, page 5 of 14 Attachment JEZ-1 shows the calculation of the 2012 Rider EE-PDR recovery 15 rates. Because this is a new program, there are no prior period true-up amounts in 16 this initial filing.

17 The rates calculated on page 5 of Attachment JEZ-1 are carried forward to
18 Attachment JEZ-3, Rider EE-PDRR.

Attachment JEZ-4, which would be proposed in the case of the Commission not approving the Company's proposed formula electric distribution rider, is similar to Attachment JEZ-1, except that page 4 shows the estimated distribution lost revenues associated with the programs. The rider rates are calculated on page 6. The rates from page 6 of Attachment JEZ-4 are carried

1

forward to Attachment JEZ-6, Rider EE-PDRR.

III. <u>RIDER DR-SAW RECONCILATION AND RIDER EE-PDR UPDATES</u> Q. WHAT PROCESS DOES THE COMPANY PROPOSE TO TERMINATE AND RECONCILE THE EXISTING RIDER DR-SAW?

4 A. Duke Energy Ohio proposes to terminate its current SAW program at the end of 5 2011. Final SAW true-up reconciliation amounts will be filed in 2012 in a 6 proceeding separate from the Rider EE-PDR update filing. In the event that Rider 7 DR is not approved in Case No. 11-3549-EL-SSO, SAW true-up filings will 8 continue for up to 36 months or until new distribution base rates are approved by 9 the Commission. This extended SAW true-up period is necessary because lost 10 revenue recovery spans a three year period. As previously discussed, Rider DR 11 would eliminate the need for lost revenue recovery. The Company proposes to 12 adjust the approved Rider EE-PDR rates for a period of time to reflect SAW 13 reconciliation amounts that are approved by the Commission.

14 Q. HOW OFTEN WILL RIDER EE-PDR BE UPDATED?

15 A. Duke Energy Ohio proposes to make an update filing each year.

16 Q. WHAT PROCESS DOES THE COMPANY PROPOSE TO UPDATE 17 RIDER EE-PDRR?

A. Subsequent EE-PDRR update filings are planned to be made annually in June of
each year using estimated costs for the upcoming calendar year and with rates to
be effective January 1 of each year. These update filings will include a
reconciliation of the prior year costs, collections, and customer participation.
Prior year over- or under-collection of incentives will be reflected in the annual

update filing, and appropriate adjustments will be made to the Rider EE-PDRR
 rates to reflect those true-ups.

IV. CONCLUSION

3 Q. HOW DOES THE COMPANY PROPOSE THAT ITS TARIFFS,
4 INCLUDING THE PREVIOUSLY DISCUSSED RATES AND CHARGES,
5 BE IMPLEMENTED?

- A. Duke Energy Ohio proposes that the revised tariffs, including the rates and
 charges complying with the Commission's Order in this case, be effective January
 1, 2012, for all customers.
- 9 Q. WERE THE ATTACHMENTS DISCUSSED ABOVE PREPARED BY YOU
- 10 OR UNDER YOUR SUPERVISION?
- 11 A. Yes.
- 12 Q. DOES THIS CONCLUDE YOUR TESTIMONY?
- 13 A. Yes.
- 14

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Duke Energy Ohio Energy Efficiency and Peak Demand Response Rider Summary of Calculations for 2012 Programs

OHIO REVENUE REQUIREMENT (excluding Lost Revenues) WORKPAPER in \$

Discount Rate	8.10%	l		
M&V	5.0%			
Shared Savings	7.5%			
Sen Oneci 2012 Cost	72,630,000	estimatea 7.5 cents/kwn		2012
Summary Revenue Requirement	nt	Res from Portfolio		\$16,636,107
		NonRes from Portfolio		15,020,766
		NonRes Self-Oirect		2,250,000
				33,900,873
				2012
Total Portfolio		Total Avoided Costs		\$85,579,439
		Program Costs & Overhead	· · · · · · · · · · · · · · · · · · ·	(25,885,554)
	_	Shared Savings		59,693,886
	•	Utility Share		4.477.041
	+	Program Cost & Overhead Recovery		25,885,554
	+	M&V Recovery		1,294,278
		Total Revenue Requirement		31,656,873
		Self Direct		2,250,000
		Total nevenue nequirement		33,500,674
				2012
Res EE	NPV	Avoided Costs: T&D	Cumulative Avoided T&D Electric NF	\$3,888,041
	NPV	Avoided Costs: Energy	Cumulative Cost-Based Availed Elec Production NF	16,811,910
	NPV	Total Avoided Costs	Comutative Cost-Based Avoided Elec Copucity NP	25 889 729
		Program Costs & Overhead	Total Utility Costs	{10,985,271]
		Shared Savings		14,904,458
	x	Utility Sharing Rate		7.5%
		Utility Share		1,117,834
	+	M&V Recovery		549.264
		Total Revenue Requirement		12,652,369
NonRes FF	AIGH	Avaided Costs: T&D	Furnillative Austral TRA Flactric NE	2012
	NPV	Avoided Costs: Tab	Cumulative Cost-Based Avoided Elec Production NF	34,320,957
	NPV	Avolded Costs: Capacity	Cumulative Cost-Based Avoided Elec Capacity NF	7,787,217
		Total Avoided Costa		46,801,881
		Program Costs & Overhead	Total Utility Costs	(9,694,882)
	x	Snareu Savings Litišity Sharing Rate		57,106,559 7.5%
	-	Utility Share		2,783,025
	+	Program Cost & Overhead Recovery		9,694,882
	+	M&V Recovery		484,744
		Total Revenue Requirement		12,962,651
Res DR		Austided Center T&D	Consultation Availated TO D Classes MC	2012
	1-rear 1-Year	Avoided Costs: Law Avoided Costs: Capacity	Cumulative Avoided 1&D Electric NF Cumulative Cast-Based Avoided Elec Canacity NE	\$2,639,530 4 314.401
	2-760	Total Avoided Costs	Companye Cost Dased Avoided Liet Capacity A	6,953,931
		Program Costs & Overhead	Total Utility Costs	(3.550,967)
		Shared Savings		3,402,964
	×	Utility Sharing Rate	······································	7.5%
	+	Program Cost & Overhead Recovery		3.550.967
	+	M&V Recovery		177,548
		Total Revenue Requirément		3,983,738
NonPos Ob	a	4		2012
INTERNATION TO THE TRANSPORT	1-Year 1-Year	Avoided Costs: T&D Avoided Costs: Capacity	Cumulative Avoided T&U Electric NF Cumulative Cost-Rosed Avoided Elec Connectiv M5	\$2,252,352 3,691 544
	1-1-60	Total Avoided Costs	Campionine Cost Dates Hapkied Fiel Cabacity Iab	5,933,899
		Program Costs & Overhead	Total Utility Costs	(1,654,434)
		Shared Savings		4,279,465
	×	Utility Sharing Rate		7.5%
		Utility Share Program Cost & Overhead Perceveny		320,960 1 654 494
	+	M&V Recovery		82.722
		Total Revenue Requirement		2,058,115

Attachment JEZ-1 Page 2 of 5

Duke Energy Ohio Energy Efficiency and Peak Demand Response Rider Summary of Calculations for 2012 Programs

Sales Forecast By Customer Class

	1,643,000	1,185,000	1,733,000	1,178,000	1,433,000	1,159,000	1,445,000	1,453,000	1,343,000	1,241,000	1,081,000	1,787,000	6,681,000
5	78,000	94,000	67,000	30,000	51,000	18,000	66,000	16,000	40,000	000'60	68,000	78,000	15,000 1
٩	4	m	4	m	m	m	m	4	m	m	2	4	4,5
	8,038,000	8,043,000	8,132,000	8,036,000	000'066'2	8,104,000	8,014,000	8,051,000	8,027,000	8,001,000	7,978,000	8,039,000	96,453,000
รเ	~	_	~		~	_	~	•	_	~		~	
	108,346,16	101,154,44:	102,401,313	98,966,53!	101,590,33(112,359,883	114,427,888	115,200,399	116,589,021	103,537,418	95,046,292	101,745,709	271,365,39(
OPA													Т,
ndustrial	447,384,114	420,095,084	433,381,162	422,350,161	433,660,894	453,828,855	465,747,896	477,875,162	465,870,489	441,790,671	423,871,842	434,273,275	5,320,129,605
Commercial	573,359,620	524,137,474	516,793,756	507,575,169	513,792,074	590,639,642	628,249,954	630,683,600	608,794,404	530,628,218	499,935,011	558,684,832	6,683,273,754
Residential	780,533,746	690,730,238	603,707,114	492,226,472	431,209,540	551,512,288	693,894,281	724,310,958	645,495,705	471,670,006	452,680,186	643,068,237	7,181,038,771
Month	1	2	'n	4	Ŝ	9	7	80	6	10	11	12	total
Year	2012												

 Attachment JEZ-1
 Page 3 of 5

 Duke Energy Ohio
 Energy Efficiency and Peak Demand Response Rider

 Summary of Calculations for 2012 Programs
 January 2012 through December 2012

 January 2012 through December 2012
 Program Costs (A)

 Electric Rider EE-PDR
 \$ 16,636,107

 Non-Residential Rates
 \$ 16,636,107

 Non-Residential Rates
 \$ 17,270,766

(A) See page 1.

	Attachment JEZ-1	Page 4 of 5
Duke Energy Ohio		
Energy Efficiency and Peak Demand Response Rider		
Summary of Billing Determinants		
Year		2012
Projected Annual Electric Sales KWH		
Residential Rates RS, ORH, TD, RS3P, RSLI, TD-AM, TD-LITE, TD-CPP_LITE		7,181,038,771
Non-Residential Rates		
DS, DP, DM, GS-FL, EH, SP, SFL-ADPL, TS, RTP, & CUR		13,274,768,755

Attachment JEZ-1

Duke Energy Ohio Energy Efficiency and Peak Demand Response Rider Summary of Calculations

January 2012 through December 2012

Rate Schedule	True-Up Amount (A)		Expected Program Costs (B)	Req	stal DSM levenue uirements	Estimated Billing Determinants (C)		DSM Cost Recovery Rider (DSMR)	
<u>Electric Rider DSM</u> Residential Rates RS, ORH, TD, RS3P, RSU, TD-AM, TD-LITE, TD-CPP_LITE	s.	\$	16,636,107	\$	16,636,107	7,181,038,771	kWh	\$ 0.002317 \$	/kWh
Distribution tevel Rates DS, DP, DM, GS-FL, EH, SP, SFL-ADPL, TS, RTP, & CUR	\$ '	ŝ	17,270,766	\$	17,270,766	13,274,768,755	kwħ	\$ 0.001301 \$	/kwh
Total Recovery				•7>	33,906,873				

Duke Energy Ohio 139 East Fourth Street Cincinnati, Ohio 45202 P.U.C.O. Electric No. 19 Sheet No. 107.1 Cancels and Supersedes Original Sheet No. 107 Page 1 of 3

RIDER EE-PDR

ENERGY EFFICIENCY AND PEAK DEMAND RESPONSE RECOVERY RIDER

APPLICABILITY

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

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

CHARGES

The monthly amount computed under each of the rate schedules to which this rider is applicable shall be increased or decreased by the EE-PDR Charge at a rate per kilowatt-hour of monthly consumption and, where applicable, a rate per kilowatt of monthly billing demand, in accordance with the following formula:

EE-PDR Charge = PC + PI + BA

Where: PC = PROGRAM COST RECOVERY. PI = PDR PROGRAM INCENTIVE RECOVERY. BA = BALANCE ADJUSTMENT.

For each twelve month period, the PC shall include all expected costs for the energy efficiency and peak demand response programs. Such program costs shall include the cost of planning, developing, implementing, monitoring, and evaluating the EE-PDR programs. Program costs will be assigned for recovery purposes to the rate classes whose customers are directly participating in the program. In addition, all costs incurred by or on behalf of the collaborative process, including but not limited to costs for consultants, employees and administrative expenses, will be recovered through the PC. Administrative costs that are allocable to more than one rate class will be recovered from those classes and allocated by rate class on the basis of the estimated avoided capacity and energy costs resulting from each program.

The PC applicable to each rate class shall be determined by dividing the costs of approved programs allocated or assigned to that class by the expected kilowatt-hour sales for the upcoming twelvemonth period.

Filed pursuant to an Order	dated in Case	e No befo	re the Public Utilities
Commission of Ohio.			

Issued:

Effective:

	Sheet No. 107.1
Duke Energy Ohio	Cancels and Supersedes
139 East Fourth Street	Original Sheet No. 107
Cincinnati, Ohio 45202	Page 2 of 3

P.U.C.O. Electric No. 19

CHARGES (Cont'd)

The EE-PDR Program Incentive (PI) amount shall be computed by multiplying the net resource savings expected from the approved programs which are to be installed during the upcoming twelve-month period times the allowed shared savings percentage. The allowed shared savings percentages are as follows: 0% for achievement level of 100% or less, 7.5% for achievement level greater than 100% and less than or equal to 110%, 10% for achievement level greater than 110% and less than or equal to 115%, and 15% for achievement level greater than 115%. Net resource savings are defined as program benefits less the costs of the program, where program benefits will be calculated on the basis of the present value of the Company's avoided costs over the expected life of the program, and will include both capacity and energy savings. The amount related to programs for each rate class shall be divided by the expected kilowatthour sales for the upcoming twelve-month period to determine the PI for that rate class. EE-PDR incentive amounts will be assigned for recovery purposes to the rate classes whose programs created the incentive.

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

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

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

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

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

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

Filed pursuant to an Order dated _	in Case No	before the Public Utilities
Commission of Ohio.		

Issued:

Effective:

	Sheet No. 107.1
Duke Energy Ohio	Cancels and Supersedes
139 East Fourth Street	Original Sheet No. 107
Cincinnati, Ohio 45202	Page 3 of 3

P.U.C.O. Electric No. 19

FILINGS

The filing of modifications to the EE-PDR Charge shall be made at least thirty days prior to the beginning of the effective period for billing. Each filing will include the following information as needed: A detailed description of each EE-PDR program.

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

An analysis of expected resource savings.

Information concerning the specific EE-PDR or efficiency measures to be installed.

Any applicable studies which have been performed, as available.

A statement setting forth the detailed calculation of each component of the EE-PDR Charge.

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

SERVICE REGULATIONS

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

Filed pursuant to an Order dated	in Case No	before the Public Utilities
Commission of Ohio.		

Issued:

Effective:

	Sheet No. 106.3
Duke Energy Ohio	Cancels and Supersedes
139 East Fourth Street	Sheet No. 106.2
Cincinnati, Ohio 45202	Page 1 of 1

RIDER EE-PDRR

P.U.C.O. Electric No. 19

ENERGY EFFICIENCY AND PEAK DEMAND RESPONSE RECOVERY RATE

The EE-PDRR rate shall be determined in accordance with the provisions of Rider EE-PDR, Energy Efficiency and Peak Demand Response Recovery rider, Sheet No. 107 of this Tariff.

The EE-PDRR to be applied to residential service customer bills beginning with the January 2012 revenue month is \$0.002317 per kilowatt-hour.

The EE-PDRR to be applied to non-residential service customer bills beginning with the January 2012 revenue month for distribution service is \$0.001301 per kilowatt-hour.

Filed pursuant to an Order dated ______ in Case No. ______ before the Public Utilities Commission of Ohio.

Issued:

Effective:

Duke Energy Ohio Energy Efficiency and Peak Demand Response Rider Summary of Calculations for 2012 Programs

OHIO REVENUE REQUIREMENT (excluding Lost Revenues) WORKPAPER in \$

Discount Rate	8.10%			
M&V Shared Seviers	5.0%			
Self Direct 2012 Cost	52.250.000	estimated 7.5 cents/kwh		
,				2012
Summary Revenue Requiremen	nt	Res from Portfolio		\$16,636,107
		NonRes from Portfolio NonRes Self-Direct		2,250,000
		Total		33,906,873
Tabal Danislatia		Table Available Contra		2012
local Portrono		Program Costs & Overhead		(25.885.554)
		Shared Savings		59,693,886
	×	Utility Sharing Rate		7.5%
		Utility Share		4,477,041
	+	M&V Recovery		1,294,278
		Total Revenue Requirement		31,656,873
		Self Direct		2,250,000
		Total Revenue Requirement		33,906,873
				2012
Res EE	NPV	Avoided Costs: T&D	Cumulative Availed T&D Electric NF	\$3,888,041
	NPV	Avoided Costs: Energy	Cumulative Cost-Based Avoided Elec Production NF	16,811,910
	NPV	Avoided Costs: Capacity Total Avoided Costs	Campianie Cost-Bosed Avaloeo Elec Capacity Nr	25.889.729
		Program Costs & Overhead	Total Utility Costs	(10,985,271)
		Shared Savings		14,904,458
	×	Utility Sharing Rate		7.5%
	•	Program Cost & Overhead Recovery		10.985.271
	+	M&V Recovery		549,264
		Total Revenue Requirement		12,652,369
				2012
NonRes EE	NPV	Avaided Costs: T&D	Cumulative Avoided T&D Electric NF	\$4,693,706
	NPV	Avoided Costs: Energy	Cumulative Cost-Based Avoided Elec Production NF	34,320,957
	NPV	Avoided Costs: Capacity Total Avoided Costs	Cumulative Cost-Based Avoided Elec Capacity NF	46 801 881
		Program Costs & Overhead	Total Utility Costs	(9,694,832)
		Shared Savings		37,106,999
	×	Utility Sharing Rate		7.5%
		Utility Share		2,783,025
	+ +	M&V Recovery		484,744
		Total Revenue Requirement		12,962,651
Dec DD	1. Vara	Availand Control TR D	Cumulative Avoided TRO Electric NE	2012
	1-Year	Avoided Costs: Capacity	Cumulative Cost-Based Avoided Elec Capacity NF	4,314,401
		Total Avoided Costs		6,953,931
		Program Costs & Overhead	Total Utility Costs	(3,550,967)
		Shared Savings		3,402,964 7.5%
	^	Utility Share	_	255,222
	+	Program Cost & Overhead Recovery		3,550,967
	+	M&V Recovery		177,548
		Total Revenue Requirement: A state of the second state of the seco		3,983,738
ND OD	× v.		Cumulative Aveided TRD Fleet-1- MC	2012
NUMRES UK	1-Year 1-Year	Avoided Costs: T&U Avoided Costs: Capacity	Communitie Avoided Table Clectric NF Cumulative Cost-Based Avoided Elec Canacity NF	ə∠,∠ə2,≾ə∠ 3,681,546
	1.20	Total Avoided Costs		5,933,899
		Program Costs & Overhead	Total Utility Costs	(1,654,434)
		Shared Savings		4,279,465
	x	Utility Share		320.960
	+	Program Cost & Overhead Recovery		1,654,434
	+	M&V Recovery		82,722
		Total Revenue Requirement		2,058,115

Attachment JEZ-4 Page 2 of 6

Duke Energy Ohio Energy Efficiency and Peak Demand Response Rider Summary of Calculations for 2012 Programs

Sales Forecast By Customer Class

C	478,000 1,643,000	394,000 1,185,000	467,000 1,733,000	330,000 1,178,000	351,000 1,433,000	318,000 1,159,000	366,000 1,445,000	416,000 1,453,000	340,000 1,343,000	309,000 1,241,000	268,000 1,081,000	478,000 1,787,000	1.515.000 $16.681.000$
Q	8,038,000	8,043,000	8,132,000	8,036,000	000'066'2	8,104,000	8,014,000	8,051,000	8,027,000	8,001,000	7,978,000	8,039,000	96,453,000 4
SL	108,346,169	101,154,441	102,401,313	98,966,535	101,590,330	112,359,881	114,427,888	115,200,399	116,589,021	103,537,418	95,046,292	101,745,709	,271,365,396
OPA													1
Industrial	447,384,114	420,095,084	433,381,162	422,350,161	433,660,894	453,828,855	465,747,896	477,875,162	465,870,489	441,790,671	423,871,842	434,273,275	5,320,129,605
Commercial	573,359,620	524,137,474	516,793,756	507,575,169	513,792,074	590,639,642	628,249,954	630,683,600	608,794,404	530,628,218	499,935,011	558,684,832	6,683,273,754
Residential	780,533,746	690,730,238	603,707,114	492,226,472	431,209,540	551,512,288	693,894,281	724,310,958	645,495,705	471,670,006	452,680,186	643,068,237	7,181,038,771
Year Month	2012 1	2	ς	4	Ŀ,	9	7	80	თ	10	11	12	total

Duke Energy Ohio Energy Efficiency and Peak Demand Response Rider Summary of Calculations for 2012 Programs

OHIO LOST REVENUE ESTIMATE WORKPAPER in \$

Line Losses	6.8420%]		
				2012
SUMMARY		Res		954,945
Half-year		NonRes		441,185
Convention		Total		1,396,130
				2012
SUMMARY		Res		1,909,890
Jan 1 start		NonRes		882,370
		Total Constant State		2,792,260
Res EE	Vintage			2012
	1	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	1,909,890
	2	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	0
	3	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	0
	4	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	0
	5	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	0
		Lost Revenues		1,909,890
	Vintage			2012
	1	KWH at Meter, Net FR	Cumulative kWh w/losses NF	79,888,330
	2	KWH at Meter, Net FR	Cumulative kWh w/losses NF	0
	3	KWH at Meter, Net FR	Cumulative kWh w/losses NF	0
	4	KWH at Meter, Net FR	Cumulative kWh w/losses NF	Ď
	5	KWH at Meter, Net FR	Cumulative kWh w/losses NF	0
		KWH at Meter, Net FR	Cumulative kWh w/losses NF	79,888,330
	Vintage			2012
	1	Implicit \$/KWH		\$0.0239
	2	Implicit \$/KWH		\$0.0000
	3	Implicit \$/KWH		\$0.0000
	4	Implicit \$/KWH		\$0.0000
	5	Implicit \$/KWH		\$0.0000
		Implicit \$/KWH		\$0.0239
NonRes EE	Vintage			2012
	1	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	882,370
	2	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	0
	3	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	0
	4	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	0
	5	Lost Revenues	Cumulative Elec Lost Rev Net of Fuel NF	0
		Lost Revenues 👾 👘		882,370
	Vintage			2012
	1	KWH at Meter, Net FR	Cumulative kWh w/losses NF	73,113,433
	2	KWH at Meter, Net FR	Cumulative kWh w/losses NF	0
	3	KWH at Meter, Net FR	Cumulative kWh w/losses NF	0
	4	KWH at Meter, Net FR	Cumulative kWh w/losses NF	0
	5	KWH at Meter, Net FR	Cumulative kWh w/losses NF	0
		KWH at Meter, Net FR	Cumülative kWh w/losses NF	73,113,433
	Vintage			2012
	1	Implicit \$/KWH		\$0.0121
	2	Implicit \$/KWH		\$0.0000
	3	Implicit \$/KWH		\$0.0000
	4	Implicit \$/KWH		\$0.0000
	5	Implicit \$/KWH		\$0.0000
		Implicit \$/KWH		ູ.ັ \$0.0121

Workpaper Notes:

Lost Revenues have been shown for 36 months.

The Lost Revenue and KWH shown assume a Jan 1 start date for all participants. In practice, participation for lost margins would be tracked on a monthly basis.

Duke Energy Ohio Energy Efficiency and Peak Demand Response Rider Summary of Calculations for 2012 Programs

January 2012 through December 2012

	Program Costs (A)
Electric Rider EE-PDR	τ,
Residential Rates RS, ORH, TD, RS3P, RSLI, TD-AM, TD-LITE, TD-CPP_LITE	\$ 16,636,107
Non-Residential Rates	
DS, DP, DM, GS-FL, EH, SP, SFL-ADPL, TS, RTP, & CUR	\$ 17,270,766

(A) See page 1.(C) See page 3.

	Attachment JEZ-4	Page 5 of 6
Duke Energy Ohio		
Energy Efficiency and Peak Demand Response Rider		
Summary of Billing Determinants		
Year		2012
Projected Annual Electric Sales KWH		
Residential Rates RS, ORH, TD, RS3P, RSLI, TD-AM, TD-LITE, TD-CPP_LITE		7,181,038,771
Non-Residential Rates		
DS, DP, DM, GS-FL, EH, SP, SFL-ADPL, TS, RTP, & CUR		13,274,768,755

Attachment JE2-4

Duke Energy Ohio Energy Efficiency and Peak Demand Response Rider Summary of Calculations

January 2012 through December 2012

			Expected	Lost	Total DSM	Estimated	Ē	ugy Efficiency and Peak
Rate Schedule	True-Up	-	Program	Revenues	Revenue	Billing	Dei	nand Response Recovery
Flamtric Birlar DCM	Amount	7		10) 53501	kequirement	s Determinants (D)	011	er (cc-rukk)
Residential Rates RS, ORH, TD, RS3P, RSLI, TD-AM, TD-LITE, TD-CPP_LITE	ŝ	VF	; 16,636,107 \$	954,945	\$ 17,591,0	.2 7,181,038,771	kwh \$	0.002450 \$/kWh
Distribution Level Rates DS, DP, DM, GS-FL, EH, SP, SFL-ADPL, TS, RTP, & CUR	Ś	U 5	17,270,766 \$	441,185	\$ 17,711,9	1 13,274,768,755	kwh \$	0.001334 \$/kwh
Total Recovery					\$ 35,303,00	Ð		

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Duke Energy Ohio 139 East Fourth Street Cincinnati, Ohio 45202 P.U.C.O. Electric No. 19 Sheet No. 107.1 Cancels and Supersedes Original Sheet No. 107 Page 1 of 3

RIDER EE-PDR

ENERGY EFFICIENCY AND PEAK DEMAND RESPONSE RECOVERY RIDER

APPLICABILITY

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

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

CHARGES

The monthly amount computed under each of the rate schedules to which this rider is applicable shall be increased or decreased by the EE-PDR Charge at a rate per kilowatt-hour of monthly consumption and, where applicable, a rate per kilowatt of monthly billing demand, in accordance with the following formula:

EE-PDR Charge = PC + LR + PI + BA

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

For each twelve month period, the PC shall include all expected costs for the energy efficiency and peak demand response programs. Such program costs shall include the cost of planning, developing, *implementing, monitoring, and evaluating the EE-PDR programs. Program costs will be assigned for* recovery purposes to the rate classes whose customers are directly participating in the program. In addition, all costs incurred by or on behalf of the collaborative process, including but not limited to costs for consultants, employees and administrative expenses, will be recovered through the PC. Administrative costs that are allocable to more than one rate class will be recovered from those classes and allocated by rate class on the basis of the estimated avoided capacity and energy costs resulting from each program.

The PC applicable to each rate class shall be determined by dividing the costs of approved programs allocated or assigned to that class by the expected kilowatt-hour sales for the upcoming twelve-month period.

Filed pursuant to an Order date	d in Case No	_ before the Public Utilities
Commission of Ohio.		
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CHARGES (Cont'd)

Lost revenues (LR) from lost sales due to EE-PDR programs shall be computed by 1) multiplying the amount of kilowatt-hour sales that will be lost during the year as a result of the implementation of the approved programs times the energy charge for the applicable rate schedule, less the variable cost included in the charge, and 2) dividing that product by the expected kilowatt-hour sales for the upcoming twelve-month period. Recovery of revenues from lost sales for each rate class shall be included in the LR for three years from the implementation of the measures or until terminated by the implementation of new rates pursuant to a general rate case, whichever comes first. Revenues from lost sales will be assigned for recovery purposes to the rate classes whose programs resulted in the lost sales.

The EE-PDR Program Incentive (PI) amount shall be computed by multiplying the net resource savings expected from the approved programs which are to be installed during the upcoming twelve-month period times the allowed shared savings percentage. The allowed shared savings percentages are as follows: 0% for achievement level of 100% or less, 7.5% for achievement level greater than 100% and less than or equal to 110%, 10% for achievement level greater than 110% and less than or equal to 115%, and 15% for achievement level greater than 115%. Net resource savings are defined as program benefits less the costs of the program, where program benefits will be calculated on the basis of the present value of the Company's avoided costs over the expected life of the program, and will include both capacity and energy savings. The amount related to programs for each rate class shall be divided by the expected kilowatthour sales for the upcoming twelve-month period to determine the PI for that rate class. EE-PDR incentive amounts will be assigned for recovery purposes to the rate classes whose programs created the incentive.

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

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

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

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

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

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

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

FILINGS

The filing of modifications to the EE-PDR Charge shall be made at least thirty days prior to the beginning of the effective period for billing. Each filing will include the following information as needed: A detailed description of each EE-PDR program.

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

An analysis of expected resource savings.

Information concerning the specific EE-PDR or efficiency measures to be installed.

Any applicable studies which have been performed, as available.

A statement setting forth the detailed calculation of each component of the EE-PDR Charge.

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

SERVICE REGULATIONS

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

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RIDER EE-PDRR ENERGY EFFICIENCY AND PEAK DEMAND RESPONSE RECOVERY RATE

P.U.C.O. Electric No. 19

The EE-PDRR rate shall be determined in accordance with the provisions of Rider EE-PDR, Energy Efficiency and Peak Demand Response Recovery rider, Sheet No. 107 of this Tariff.

The EE-PDRR to be applied to residential service customer bills beginning with the January 2012 revenue month is \$0.002450 per kilowatt-hour.

The EE-PDRR to be applied to non-residential service customer bills beginning with the January 2012 revenue month for distribution service is \$0.001334 per kilowatt-hour.

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