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17-1264-EL-ATA
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Part 3 of 6

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Description of Document: Application continued
(Testimonies of:
James P. Henning
Robert J. Lee
William Don Wathen, Jr.
Scott B. Nicholson
Cicely M. Hart
Donald L. Schneider, Jr.
Retha Hunsicker

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to)	
Establish a Standard Service Offer)	
Pursuant to Section 4928.143, Revised	)	Case No. 17-1263-EL-SSO
Code, in the Form of an Electric Security)	
Plan, Accounting Modifications and)	
Tariffs for Generation Service.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Amend	)	Case No. 17-1264-EL-ATA
its Certified Supplier Tariff, P.U.C.O. No.)	
20.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Defer	)	Case No. 17-1265-EL-AAM
Vegetation Management Costs.)	

DIRECT TESTIMONY OF

JAMES P. HENNING

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 1, 2017

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION.....	1
II. DUKE ENERGY OHIO’S PROPOSED ESP	3
A. Recent, Germane Developments.....	3
B. Significant Components of the Proposed ESP	6
III. CONSISTENCY WITH STATE POLICY.....	10
IV. INTRODUCTION OF WITNESSES.....	26
V. ATTACHMENTS SPONSORED BY WITNESS.....	28
VI. CONCLUSION	29

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is James P. Henning, 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 A. I am employed by Duke Energy Business Services LLC (DEBS), as State
6 President of Duke Energy Ohio, Inc., (Duke Energy Ohio or the Company) and its
7 subsidiary, Duke Energy Kentucky, Inc. (Duke Energy Kentucky). DEBS
8 provides various administrative and other services to Duke Energy Ohio and other
9 affiliated companies of Duke Energy Corporation (Duke Energy).

10 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND**
11 **PROFESSIONAL EXPERIENCE.**

12 A. I received a Bachelor of Science in Financial Services from Wright State
13 University in 1988, and a Master of Business Administration from the University
14 of South Florida in 1990.

15 I have worked in the energy industry for more than 25 years. From 1990-
16 1993, I was employed at the Dayton Power & Light Company (DP&L) as a
17 Natural Gas Analyst in the Natural Gas Supply Planning Department. In 1996, I
18 joined Cinergy Corp.'s non-regulated natural gas sales company (Cinergy
19 Resources, Inc.) as the Manager of Energy Sales and Services and worked in this
20 capacity until 2000. From 2000-2001, I worked for various departments within
21 Cinergy, including Environmental Services, Labor Relations, and Natural Gas
22 Operations. Beginning October 2001, I led the commercial activities of Duke

1 Energy's regulated natural gas business in Ohio and Kentucky as General
2 Manager, Natural Gas Commercial Operations. In September 2010, I became
3 Vice President of Government and Regulatory Affairs for Duke Energy Ohio and
4 Duke Energy Kentucky. I assumed the role of State President, Duke Energy Ohio
5 and Duke Energy Kentucky, in December 2012.

6 **Q. PLEASE DESCRIBE YOUR DUTIES AS STATE PRESIDENT, DUKE**
7 **ENERGY OHIO.**

8 A. As State President, Duke Energy Ohio, I am responsible for ensuring that our
9 customers continue to have access to safe, reliable, and reasonably priced electric
10 and natural gas service and that these services are provided in accordance with
11 applicable federal and state laws and regulations. I am also involved in external
12 efforts relating to governmental and regulatory affairs, interacting with state and
13 community leaders and regulators on matters relevant to Duke Energy Ohio's
14 business and presence in Ohio. I am responsible for the Company's community
15 relations and economic development efforts, as well as Duke Energy's charitable
16 contributions in the Greater Cincinnati region.

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

19 A. Yes. I have submitted pre-filed testimony with and have testified before the
20 Public Utilities Commission of Ohio (Commission).

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE**
2 **PROCEEDINGS?**

3 A. My testimony identifies the significant considerations underlying the electric
4 security plan (ESP) being proposed in the Application filed in these proceedings.
5 Specifically, I describe how the proposed ESP enables continued focus on the
6 evolution of the electric grid and transforming the customer experience,
7 appropriately positions Duke Energy Ohio to further the Commission's current
8 objectives related to its comprehensive PowerForward initiative, reasonably
9 safeguards the Company's financial health, and advances state policy as
10 established under R.C. 4928.02. Finally, I provide an introduction of the witnesses
11 who will testify in these proceedings.

II. DUKE ENERGY OHIO'S PROPOSED ESP

A. Recent, Germane Developments

12 **Q. SINCE THE EFFECTIVE DATE OF THE CURRENT ESP, HAVE THERE**
13 **BEEN ANY CHANGES IN OHIO LAW THAT ARE RELEVANT TO THE**
14 **COMPANY'S PROPOSED ESP?**

15 A. Yes. On September 2015, the Ohio General Assembly enacted legislation
16 requiring the Ohio Development Services Agency to administer competitive
17 procurement processes for percentage of income payment plan (PIPP) customers.
18 The Commission is responsible for designing, managing, and supervising the
19 required procurement process and, consistent therewith, established statewide

1 procedures for PIPP load procurements that incorporate requests for proposals
2 (RFP).¹

3 **Q. PLEASE EXPLAIN HOW THE CHANGES IN LAW FOR PIPP LOAD**
4 **PROCUREMENT ARE RELEVANT TO THE PROPOSED ESP.**

5 A. Simply stated, Duke Energy Ohio's proposed ESP adheres to this change in law.
6 Indeed, in 2016, Duke Energy Ohio altered its competitive procurement process
7 and conducted RFPs for a portion of our PIPP load. However, under this proposed
8 ESP, all of the supply for PIPP load will now be procured via the statutorily
9 required and Commission-directed RFP process.

10 **Q. SINCE THE EFFECTIVE DATE OF THE CURRENT ESP, HAVE THERE**
11 **BEEN OTHER ACTIONS BY THE COMMISSION RELEVANT TO THE**
12 **COMPANY'S PROPOSED ESP?**

13 A. Yes. Through its recently announced PowerForward initiative, the Commission is
14 focused on transforming Ohio's electric grid and the related customer energy
15 experience. Although there have been and continue to be avenues for Ohio's
16 distribution companies to advance their respective objectives or modernization
17 programs, the PowerForward initiative reflects the Commission's deliberate,
18 comprehensive assessment of these critically important issues with information
19 obtained from a cross-section of stakeholders. As I briefly discuss below, the
20 Company's continued focus on our customers and the systems that serve them
21 complements the Commission's PowerForward initiative. I would further add that
22 our objectives, as well as those of the Commission in respect of this new

¹ *In the Matter of the Implementation of Sections 4928.54 and 4929.544 of the Revised Code*, Case No. 16-247-EL-UNC, Finding and Order (March 2, 2016).

1 initiative, also complement the Administration's objectives. Significantly, in the
2 2018-2019 budget for the state of Ohio, Governor Kasich reflected on the need to
3 "[embrace] the future of 'smart' technologies in public utilities."²

4 **Q. PLEASE BRIEFLY DISCUSS THE COMMISSION'S POWERFORWARD**
5 **INITIATIVE.**

6 A, On March 8, 2017, the Commission launched PowerForward to "review...the
7 latest technological and regulatory innovation that could modernize the electric
8 distribution grid and enhance the customer electricity experience."³ The initiative
9 is designed to help the Commission "chart a clear path forward for future grid
10 modernization projects, innovative regulations and forward-thinking policies."⁴
11 Toward that end, the Commission's PowerForward initiative will be conducted in
12 2017, over three phases. Phase 1 occurred in April 2017 and included
13 presentations on enhancing the customer experience and grid innovation. Phase 2
14 will be conducted in July 2017 and will provide an opportunity to identify the
15 technologies that support the Commission's PowerForward initiative. Finally,
16 Phase 3 will be conducted around September 2017 to address rate and regulatory
17 reform as it relates to the PowerForward initiative.

18 **Q. PLEASE DISCUSS THE ALIGNMENT BETWEEN THE COMPANY'S**
19 **OBJECTIVES AND THE COMMISSION'S POWERFORWARD**
20 **INITIATIVE.**

² *Building For Ohio's Next Generation*, Budget of the State of Ohio - Fiscal Years 2018-2019, at pg. 2 (January 30, 2017).

³ See <https://www.puco.ohio.gov/industry-information/industry-topics/powerforward/PowerForward>

⁴ Id.

1 A. Duke Energy Ohio understands that the electric distribution system and
2 supporting technologies cannot continue to remain stagnant. Our customers
3 expect more from us, whether in the form of power quality or in the manner in
4 which we communicate with them. We must be adept at incorporating new tools
5 and new technologies for safely, reliably, and efficiently serving our customers
6 and for providing them with more convenience, control, and choices. And I
7 believe Duke Energy Ohio is in the forefront in this regard, having embraced
8 advanced metering technology years ago and continuing to pursue initiatives
9 necessary to enable this evolution. The Commission's presently described focus
10 on transforming the electric grid and altering the customer experience aligns well
11 with our ongoing efforts in respect of these issues.

B. Significant Components of the Proposed ESP

12 **Q. PLEASE SUMMARIZE THE COMPONENTS OF DUKE ENERGY**
13 **OHIO'S PROPOSED ESP.**

14 A. Duke Energy Ohio is proposing an ESP to commence on June 1, 2018, and extend
15 through May 31, 2024. In many respects, the proposed ESP is a continuation of
16 the current ESP; however, the Company is proposing modifications to the existing
17 plan and new initiatives, both of which are designed to enhance the regulatory
18 model, increase our commitment to enhancing the customer experience, and
19 further improve our ability to provide safe and reliable electric service. Because
20 other Company witnesses provide detail on the various components of the
21 proposed ESP, I have not identified all such components.

1 The cornerstone of the ESP is the competitive bid process (CBP) plan for
2 procuring capacity, energy, and ancillary services that will represent the
3 Company's standard service offer (SSO), as required under Ohio law. In these
4 proceedings, the Company proposes to perpetuate the existing auction format and
5 associated riders for cost recovery, thereby continuing to provide our SSO
6 customers a competitive generation service that is based upon forward wholesale
7 market prices. Furthermore, all customers will continue to have transparent
8 pricing information in respect of Duke Energy Ohio's SSO generation service
9 such that they should be able to make well-reasoned decisions when presented
10 with offers from competitive retail electric service (CRES) providers, which
11 ability also benefits those CRES providers that are active in the Company's
12 service territory. Additionally and as I mentioned above, the Company is
13 proposing to conduct separate RFPs to procure supply for PIPP load. This
14 procurement methodology has been incorporated into the current ESP and,
15 effective June 1, 2018, will be used to secure all supply for our PIPP load.
16 Company witness Robert J. Lee discusses the CBP plan in greater detail.

17 The proposed ESP also includes a request to continue programs that
18 benefit CRES providers, as well as requests related to the Company's distribution
19 service that are intended to enable a safe and reliable delivery system, advance the
20 customer experience, incorporate efficient and clean technologies, and properly
21 align the interests of the state, the Company, and our customers.

22 The proposed ESP, therefore, properly and optimally balances and aligns
23 the interests of our customers with those of Duke Energy Ohio and the state by

1 enabling rate stability while enabling the Company to effectively and efficiently
2 respond to, among other things, customer expectations, Commission initiatives,
3 and governmental directives. Additionally, as structured, the proposed ESP allows
4 for the continued maintenance of and improvement to system reliability and the
5 timely restoration of services, without negatively impacting the financial health of
6 the Company in the provision of these services.

7 **Q. PLEASE ELABORATE ON THOSE ASPECTS OF THE PROPOSED ESP**
8 **THAT ARE INTENDED TO ADVANCE THE CUSTOMER**
9 **EXPERIENCE.**

10 A. A comprehensive, modern distribution grid is critical to realizing the objectives of
11 the state and the Commission. Indeed, we cannot efficiently embrace smart
12 technologies without the necessary infrastructure. And this necessary
13 infrastructure – the modern distribution system – extends to communications
14 equipment and information systems. This comprehensive, contemporary system is
15 essential to our ability to reliably serve our customers and position customers to
16 have more control over and choices regarding their energy usage and related
17 programs or services that may be of benefit to them.

18 To realize this commitment to our customers, Duke Energy Ohio is
19 proposing to expand and continue the Distribution Capital Investment Rider
20 (Rider DCI). This rider has allowed the Company to proactively invest in
21 programs that appropriately maintain, harden, and enhance our distribution
22 infrastructure and advance customer expectations, while also minimizing the
23 regulatory lag that typically comes with significant investment.

1 As Company witness William Don Wathen Jr. discusses in his testimony,
2 Duke Energy Ohio is seeking to expand this rider to recover incremental revenue
3 requirement for other investments made by the Company to modernize the grid
4 and enhance the customer experience that, only because of accounting rules, are
5 recorded in distribution plant. More specifically, the Company is proposing to
6 expand Rider DCI to include distribution-related general, intangible, and common
7 plant, such as Duke Energy Ohio's Distribution Control Facility, which enables
8 the Company to provide safe and reliable distribution service for our customers.
9 Duke Energy Ohio witnesses Cicely M. Hart, Donald L. Schneider, Retha
10 Hunsicker, and Zachary Kuznar provide further detail regarding the important
11 programs intended for inclusion under Rider DCI.

12 Among other new proposals, Duke Energy Ohio is seeking a new a new
13 rider – its PowerForward Rider – to promote the Company's timely, continued
14 transformation of the distribution grid and related customer experience and to
15 meet the Commission's previously stated goals of the Commission's
16 PowerForward initiative. Company witness Wathen provides details on this
17 proposed rider.

18 Duke Energy Ohio recognizes that the Commission's PowerForward
19 initiative will conclude after the filing of the Application in these proceedings. As
20 such, we envision later refinement of the programs to be included, and for which
21 cost recovery will be requested, under the PowerForward Rider. Notwithstanding
22 such subsequent revision, it is appropriate to establish a comprehensive
23 framework for cost recovery in the context of these proceedings. Doing so will

1 address important, current initiatives of Duke Energy Ohio and also position us to
2 proactively and timely implement programs that advance the Commission's
3 objectives in respect of the electric distribution grid and its future goals.

III. CONSISTENCY WITH STATE POLICY

4 **Q. ARE YOU FAMILIAR WITH THE POLICIES OF THE STATE OF OHIO,**
5 **AS SET FORTH IN R.C. 4928.02?**

6 A. I am familiar with these state policies. R.C. 4928.02 contains a list of policy
7 statements relating to retail electric service in the state of Ohio and places
8 emphasis on developing choices and protections for customers and on
9 encouraging energy efficiency, demand-side management, renewable energy, and
10 reliable electric service. On the advice of counsel, I also understand that the Ohio
11 Supreme Court describes these policies as guidelines for the Commission to
12 weigh in evaluating an electric distribution utility's SSO application.

13 **Q. DO YOU BELIEVE THAT DUKE ENERGY OHIO'S PROPOSED ESP**
14 **ADVANCES THE STATE'S POLICIES?**

15 A. Yes.

16 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
17 **ADVANCES THE STATE POLICY TO ENSURE THE AVAILABILITY**
18 **TO CONSUMERS OF ADEQUATE, RELIABLE, SAFE, EFFICIENT,**
19 **NONDISCRIMINATORY, AND REASONABLY PRICED, RETAIL**
20 **ELECTRIC SERVICE.**

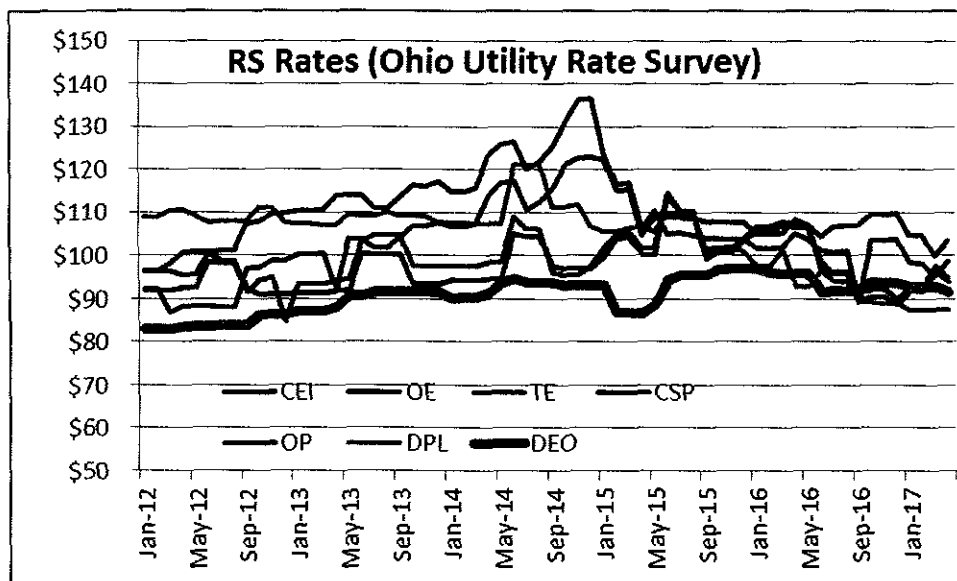
21 A. Duke Energy Ohio's proposed ESP will ensure that the Company has the
22 appropriate programs and infrastructure to provide reliable and sufficient supply

1 of retail electric service for its customers. Retail customers will continue to have
2 the option of purchasing generation service from the Company via the
3 competitively sourced SSO or from CRES providers. In either case, an adequate,
4 safe, reliable, efficient, and reasonably priced electric service is made available to
5 all retail load. As discussed in the testimony of Company witness James E.
6 Ziolkowski, the Company is proposing to continue the existing formula for
7 converting wholesale auction prices into retail rates, which furthers the goal of
8 ensuring that such prices are nondiscriminatory, *i.e.*, not favoring wholesale
9 suppliers or retail suppliers.

10 **Q. WITH THE CHANGES BEING PROPOSED IN THIS APPLICATION,**
11 **HOW WILL DUKE ENERGY OHIO'S RATES COMPARE TO THE**
12 **RATES OF OHIO'S OTHER ELECTRIC DISTRIBUTION UTILITIES?**

13 A. Duke Energy Ohio's rates have been the lowest or near the lowest among the
14 Ohio electric distribution utilities (EDUs). The following chart summarizes the
15 typical residential bills (using 750 kWh/month, as is used by the Commission) for
16 the other EDUs, based on information from the Ohio Utility Rate Survey
17 published on the Commission's website.⁵

⁵ <https://www.puco.ohio.gov/industry-information/statistical-reports/ohio-utility-rate-survey/>, page 2 of the monthly survey, in the Residential Bills section, under the electric column.



1 It is not possible to predict how pending cases for the various EDUs will
2 impact the future but Duke Energy Ohio expects to maintain its position of having
3 among the lowest rates even after its own pending cases have concluded.

4 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
5 **ADVANCES THE STATE POLICY TO ENSURE THE AVAILABILITY**
6 **OF UNBUNDLED AND COMPARABLE RETAIL ELECTRIC SERVICE**
7 **THAT PROVIDES CONSUMERS WITH THE SUPPLIER, PRICE,**
8 **TERMS, CONDITIONS, AND QUALITY OPTIONS THEY ELECT TO**
9 **MEET THEIR RESPECTIVE NEEDS.**

10 **A.** The state of Ohio has determined that competition in the supply of retail
11 generation service is important. And many of Duke Energy Ohio's customers
12 have exercised their statutory right to choose suppliers. What the Company is
13 proposing does not deviate from the current offerings that the Company provides
14 for its customers. As in the current ESP, the Company's proposed ESP relies
15 exclusively upon market forces to set the price for generation service for all

1 customers, whether they take SSO service from the Company or take service from
2 a CRES provider. The generation service provided to customers taking SSO
3 service represents an unbundled generation service that customers can compare
4 with generation services offered by CRES providers. The Company's tariffs for
5 SSO service provide all of the required information regarding the pricing, terms,
6 conditions and quality to meet customers' needs.

7 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
8 **ADVANCES THE STATE POLICY TO ENSURE DIVERSITY OF**
9 **ELECTRIC SUPPLIES AND SUPPLIERS AND BY GIVING**
10 **CUSTOMERS EFFECTIVE CHOICES OVER THE SELECTION OF**
11 **THOSE SUPPLIES AND SUPPLIERS AND BY ENCOURAGING**
12 **DEVELOPMENT OF DISTRIBUTED AND SMALL GENERATION**
13 **FACILITIES.**

14 **A.** Currently, Duke Energy Ohio has eighty-one registered and active CRES
15 providers in its service territory. The Company proposes to continue certain of the
16 provisions of the current ESP that facilitate the competitive market that currently
17 exists in our service territory. For example, maintaining the purchase of accounts
18 receivable program with the corresponding uncollectible generation expense rider
19 (Rider UE-GEN), as well as continuing to impose minimal limits on switching,
20 should serve to ensure that there will continue to be numerous and diverse
21 suppliers willing to make CRES offers in the Company's service territory. Duke
22 Energy Ohio witness Scott B. Nicholson discusses the efforts that the Company
23 continues to make in furtherance of this policy objective.

1 Further, as I mentioned earlier, Duke Energy Ohio will continue to rely
2 upon the competitive market – via an independent CBP plan – to procure all of
3 the supply for the SSO load in the proposed ESP. As evidenced by the Company’s
4 experience with the successful auctions and RFPs conducted under the current
5 ESP, there are numerous competitive suppliers willing to provide generation for
6 non-shopping customers.

7 Duke Energy Ohio will continue to offer customer generators a net
8 metering and interconnection tariff, which it amended in 2009 to enable
9 compliance with Chapter 4928, as required by the Commission.⁶ This tariff is one
10 of the tools that the Company uses to encourage the development of distributed
11 and small generation facilities and Duke Energy Ohio witness Ziolkowski
12 provides testimony on the clarification being proposed to the net metering rider.
13 Duke Energy Ohio will continue to offer these services as it is required to do
14 under Ohio law, although it reserves its right to propose additional modifications
15 to the tariff, subject to the Commission’s approval.

16 **Q. PLEASE EXPLAIN HOW THE COMPANY’S PROPOSED ESP**
17 **ADVANCES THE STATE POLICY TO ENCOURAGE INNOVATION**
18 **AND MARKET ACCESS FOR COST-EFFECTIVE SUPPLY- AND**
19 **DEMAND-SIDE RETAIL ELECTRIC SERVICE, INCLUDING, BUT NOT**
20 **LIMITED TO, DEMAND-SIDE MANAGEMENT, TIME-**
21 **DIFFERENTIATED PRICING, AND IMPLEMENTATION OF**
22 **ADVANCED METERING INFRASTRUCTURE.**

⁶ *In the Matter of the Application of Duke Energy Ohio, Inc., to Modify its Tariff for Riders NM, NM-H, and Rider X*, Case No. 09-758-EL-ATA, Finding and Order (February 24, 2010).

1 A. Duke Energy Ohio's proposed ESP will not affect its commitment to meet energy
2 efficiency and peak demand reduction standards required under Ohio law. Duke
3 Energy Ohio will continue to explore all cost-effective energy efficiency offerings
4 to meet the statutory thresholds established under Ohio law.

5 Company witness Ziolkowski discusses, in his testimony, the continuation
6 of a rider to decouple volumetric sales from revenue, in the form of a Distribution
7 Decoupling Rider (Rider DDR), which also advances state policy goals in that it
8 eliminates Duke Energy Ohio's incentive to increase volumetric consumption
9 and, thus, supports the advancement of energy efficiency measures.

10 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
11 **ADVANCES THE STATE POLICY TO ENCOURAGE COST-**
12 **EFFECTIVE AND EFFICIENT ACCESS TO INFORMATION**
13 **REGARDING THE OPERATION OF THE TRANSMISSION AND**
14 **DISTRIBUTION SYSTEMS OF ELECTRIC UTILITIES IN ORDER TO**
15 **PROMOTE BOTH EFFECTIVE CUSTOMER CHOICE OF RETAIL**
16 **ELECTRIC SERVICE AND THE DEVELOPMENT OF PERFORMANCE**
17 **STANDARDS AND TARGETS FOR SERVICE QUALITY FOR ALL**
18 **CONSUMERS, INCLUDING ANNUAL ACHIEVEMENT REPORTS**
19 **WRITTEN IN PLAIN LANGUAGE.**

20 A. The state of Ohio has determined that cost-effective and efficient access to
21 information regarding transmission and distribution system operation is vital to
22 effective customer choice and the development of appropriate performance
23 standards and targets for service quality, with annual reports to be in plain

1 language. Duke Energy Ohio provides free information concerning its delivery
2 services, available both on paper and electronically, thereby supplying consumers
3 with information that they might need in order to make effective and appropriate
4 choices. As confirmed by its operation under its current ESP, the Company's
5 proposed ESP will not impact these issues. Additionally, as discussed by
6 Company witnesses Schneider and Hunsicker, Duke Energy Ohio is pursuing
7 initiatives that will position it to enhance information exchange with customers, as
8 well as entities with whom they interact in respect of their energy experience.

9 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
10 **ADVANCES THE STATE POLICY TO ENSURE THAT AN ELECTRIC**
11 **UTILITY'S TRANSMISSION AND DISTRIBUTION SYSTEMS ARE**
12 **AVAILABLE TO A CUSTOMER-GENERATOR OR OWNER OF**
13 **DISTRIBUTED GENERATION, SO THAT THE CUSTOMER-**
14 **GENERATOR OR OWNER CAN MARKET AND DELIVER THE**
15 **ELECTRICITY IT PRODUCES.**

16 **A.** Duke Energy Ohio's proposed ESP will not cause the Company's tariffs for
17 interconnections or net metering to be withdrawn or altered, other than a
18 clarification discussed by Company witness Ziolkowski. Consequently, customer
19 generators will still have access to Duke Energy Ohio's system. This state policy
20 will continue to be met under the proposed plan.

1 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
2 **ADVANCES THE STATE POLICY TO RECOGNIZE THE CONTINUING**
3 **EMERGENCE OF COMPETITIVE ELECTRICITY MARKETS**
4 **THROUGH THE DEVELOPMENT AND IMPLEMENTATION OF**
5 **FLEXIBLE REGULATORY TREATMENT.**

6 A. The Company's proposed ESP will continue to ensure a vigorous competitive
7 environment in southwestern Ohio by maintaining the SSO rate structure, thereby
8 continuing to assure a level playing field between those wholesale suppliers
9 responsible for SSO service and those retail suppliers providing CRES offers.
10 Ohio's EDUs have transferred, or are in the process of transferring, their directly
11 owned generating assets and have implemented procedures for procuring SSO
12 supply through competitive processes. Flexible regulatory treatment was
13 necessary to implement the Company's current ESP and that will continue to be
14 the case in the proposed ESP. For example, there are no statutory provisions for
15 conducting wholesale auctions for SSO supply under an ESP.⁷ Nevertheless, the
16 Commission, exercising flexible regulatory treatment, was able to formulate a
17 process for conducting such auctions and customers benefitted by establishing an
18 SSO service that, at least at the wholesale level, was exclusively priced by market
19 forces.

20 Duke Energy Ohio's ESP also includes a progressive proposal for an
21 earnings band that appropriately incentivizes the Company to aggressively
22 maintain its cost structure and aligns our interests with those of our customers. In

⁷ Section 4928.142 of the Ohio Revised Code establishes guidelines for competitive bid processes under a market rate offer but there is no similar provision under Section 4928.143 for ESPs.

1 this regard, customers are poised to benefit when the Company's earnings are
2 more than 200 basis points above of our approved rate of return and the Company
3 is positioned to adjust rates when our earnings are more than 200 basis points
4 below our approved rate of return. This proposal benefits both the Company and
5 our customers in that it provides favorable, timely access to capital markets in
6 instances where Duke Energy Ohio's financial health may be threatened. Further,
7 this proposal does not prejudice the development of competitive markets, but
8 instead ensures the Company is able to maintain a reliable and advanced
9 distribution grid that incorporates evolving technology and functions as the
10 necessary platform for transforming customers' energy experience. Company
11 witness Wathen discusses this proposal in further detail.

12 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
13 **ADVANCES THE STATE POLICY TO ENSURE EFFECTIVE**
14 **COMPETITION IN THE PROVISION OF RETAIL ELECTRIC SERVICE**
15 **BY AVOIDING ANTI-COMPETITIVE SUBSIDIES FLOWING FROM A**
16 **NON-COMPETITIVE RETAIL ELECTRIC SERVICE TO A**
17 **COMPETITIVE RETAIL ELECTRIC SERVICE OR TO A PRODUCT OR**
18 **SERVICE OTHER THAN RETAIL ELECTRIC SERVICE, AND VICE**
19 **VERSA, INCLUDING BY PROHIBITING THE RECOVERY OF ANY**
20 **GENERATION-RELATED COSTS THROUGH DISTRIBUTION OR**
21 **TRANSMISSION RATES.**

1 A. Duke Energy Ohio is proposing a CBP plan pursuant to which it will fulfill its
2 statutory obligation of providing an SSO of competitive retail electric service.⁸
3 Thus, Duke Energy Ohio will, in the first instance, rely upon third parties – the
4 successful wholesale auction winners and RFP bidders – to provide sufficient
5 supply for our SSO and PIPP customers. Furthermore, as Duke Energy Ohio
6 witness Lee explains, in the event an SSO supplier should default, the Company
7 will procure the necessary supply through the wholesale markets to fulfill its
8 statutory obligations and thereafter offer the tranches of the defaulting supplier to
9 other suppliers. Consequently, there will be no subsidies flowing from non-
10 competitive retail electric service to competitive retail electric generation services.
11 Furthermore, no generation-related costs will be recovered through transmission
12 or distribution rates.

13 Through his testimony, Duke Energy Ohio witness Christian E. Whicker
14 also explains how the Company's Corporate Separation Plan is consistent with
15 this state policy.

16 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
17 **ADVANCES THE STATE POLICY TO ENSURE RETAIL ELECTRIC**
18 **SERVICE CONSUMERS PROTECTION AGAINST UNREASONABLE**
19 **SALES PRACTICES, MARKET DEFICIENCIES, AND MARKET**
20 **POWER.**

⁸ R.C. 2928.141(A).

1 A. The Commission has adequate consumer protection rules that guard against
2 unreasonable sales practices and revises those rules as it deems necessary.⁹ There
3 are rules that are specifically applicable to utilities and other rules specifically
4 applicable to CRES providers. Duke Energy Ohio will continue to comply with
5 those rules that are applicable to it. Duke Energy Ohio further observes that the
6 Commission may initiate investigations into the retail market or the practices of
7 CRES providers.¹⁰ The Company will continue to participate in such
8 investigations, as appropriate, to provide comments to the Commission as it
9 completes its deliberative review.

10 Additionally, Duke Energy Ohio is currently a member of PJM
11 Interconnection, L.L.C., (PJM) a regional transmission organization (RTO)
12 approved by the Federal Energy Regulatory Commission (FERC). PJM has an
13 independent market monitor whose primary responsibilities are to ensure there is
14 no market power and to take actions to mitigate the development of any such
15 market power. Duke Energy Ohio will continue to be subject to the Commission's
16 jurisdiction and will continue to be a member of a FERC-approved RTO after the
17 ESP is approved.

18 At the state level, the Commission will continue to have oversight of the
19 CBP plan proposed by Duke Energy Ohio and, thus, will continue to be in a
20 position to remedy any unreasonable sales practices that it may observe. Further,

⁹ See, e.g., *In the Matter of the Commission's Review of its Rules for Competitive Retail Electric Service Contained in Chapters 4901:1-21 and 4901:1-24 of the Ohio Administrative Code*, Case No. 12-1924-EL-ORD.

¹⁰ See, e.g., *In the Matter of the Commission's Investigation of Ohio's Retail Electric Service Market*, Case No. 12-3151-EL-COI, Entry (December 12, 2012) and *In the Matter of the Commission-Ordered Investigation of Marketing Practices in the Competitive Retail Electric Services Market*, Case No. 14-568-EL-COI, Entry (April 9, 2014).

1 Duke Energy Ohio will continue to use an independent third party to serve as the
2 auction manager, thereby creating a level playing field for all auction participants.
3 Finally, the proposed ESP will have no impact on the Commission's continuing
4 jurisdiction over CRES providers' sales practices.

5 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
6 **ADVANCES THE STATE POLICY TO PROVIDE COHERENT,**
7 **TRANSPARENT MEANS OF GIVING APPROPRIATE INCENTIVES TO**
8 **TECHNOLOGIES THAT CAN ADAPT SUCCESSFULLY TO**
9 **POTENTIAL ENVIRONMENTAL MANDATES.**

10 A. Duke Energy Ohio's proposed ESP continues to provide for an open and
11 unfettered competitive marketplace for purchasing generation. By eliminating
12 non-market-based influences on customer behavior, the proposed ESP removes
13 any barriers to market participants, whether suppliers or customers, to promote
14 advanced technologies to address environmental mandates.

15 As discussed in the testimony of Company witness Wathen, Duke Energy
16 Ohio is proposing to implement a Regulatory Mandates Rider (Rider RMR) to
17 enable timely recovery of incremental costs the Company may incur to comply
18 with legislative or regulatory mandates. Approval of this rider will allow the
19 Company to "adapt successfully to potential environmental mandates" or other
20 any mandates.

21 Additionally, the Company is proposing a pilot distribution battery energy
22 storage system in these proceedings. Among other attributes, battery storage
23 reflects an effective and clean solution for backup power and can potentially delay

1 protracted distribution station maintenance. Company witness Kuznar discusses
2 this proposal in greater detail.

3 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
4 **ADVANCES THE STATE POLICY TO ENCOURAGE**
5 **IMPLEMENTATION OF DISTRIBUTED GENERATION ACROSS**
6 **CUSTOMER CLASSES THROUGH REGULAR REVIEW AND**
7 **UPDATING OF ADMINISTRATIVE RULES GOVERNING CRITICAL**
8 **ISSUES SUCH AS, BUT NOT LIMITED TO, INTERCONNECTION**
9 **STANDARDS, STANDBY CHARGES, AND NET METERING.**

10 **A.** As discussed above, customer choices for demand or supply resources, including
11 a choice to build distributed generation, must be based on competitive market
12 forces. The Company's proposed ESP creates no barriers whatsoever to customers
13 who choose to build distributed generation. The Company supports the
14 Commission's goals of establishing sensible and constructive policies that support
15 distributed generation, while recognizing the fixed costs of the distribution
16 system.

17 Duke Energy Ohio will continue to participate in reviews and updating of
18 administrative rules relating to interconnection standards, standby charges, and
19 net metering. However, such administrative processes will not be impacted by the
20 ESP proposal.

1 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
2 **ADVANCES THE STATE POLICY TO PROTECT AT-RISK**
3 **POPULATIONS, INCLUDING, BUT NOT LIMITED TO, WHEN**
4 **CONSIDERING THE IMPLEMENTATION OF ANY NEW ADVANCED**
5 **ENERGY OR RENEWABLE ENERGY RESOURCE.**

6 A. Duke Energy Ohio's ESP proposal undeniably protects at-risk populations. The
7 playing field for SSO suppliers and CRES providers will be level. Such
8 competition is what S.B. 221 sought to encourage, to the benefit of at-risk
9 populations. The ESP also includes a proposal that will provide all customers –
10 including our most at-risk customers – with stability in an otherwise volatile
11 market. And it enables a proactive approach to distribution system maintenance
12 and reliability, recognizing our customers' evolving dependence upon electricity
13 and their preference for convenience, control over, and choices regarding their
14 energy consumption.

15 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
16 **ADVANCES THE STATE POLICY TO ENCOURAGE THE EDUCATION**
17 **OF SMALL BUSINESS OWNERS IN THIS STATE REGARDING THE**
18 **USE OF, AND ENCOURAGE THE USE OF, ENERGY EFFICIENCY**
19 **PROGRAMS AND ALTERNATIVE ENERGY RESOURCES IN THEIR**
20 **BUSINESSES.**

21 A. Chapter 4928 includes requirements for energy efficiency and alternative energy
22 resources. To my knowledge, these requirements are independent of whether a
23 utility operates under a market rate offer or an ESP. Nevertheless, Duke Energy

1 Ohio has been, and continues to be, subject to those requirements. Under the ESP,
2 Duke Energy Ohio will continue to work with small business owners regarding
3 energy efficiency programs and alternative energy resources as it has in the past,
4 unaffected by the change in how its rates are developed. Duke Energy Ohio has
5 implemented a successful energy efficiency cost recovery model with a robust
6 portfolio of programs available to both residential and non-residential customers.

7 As part of the current ESP, the Company agreed to file for Commission
8 approval of a rider to decouple revenue for customers that are not billed based on
9 demand. On May 30, 2012,¹¹ the Commission approved Rider DDR, which acts to
10 remove much of the negative impact the Company experiences from reduced
11 volumetric sales from certain customer classes. As Company witness Ziolkowski
12 discusses in his testimony, Rider DDR has been successful to date and Duke
13 Energy Ohio is proposing to extend the rider. This constructive recovery model
14 and a robust portfolio of programs are essential to allowing Duke Energy Ohio to
15 continue to meet its energy efficiency requirements under Chapter 4928.

16 **Q. PLEASE EXPLAIN HOW THE COMPANY'S PROPOSED ESP**
17 **ADVANCES THE STATE POLICY TO FACILITATE THE STATE'S**
18 **EFFECTIVENESS IN THE GLOBAL ECONOMY AND HOW IT**
19 **CORRESPONDS WITH THE REQUIREMENT THAT, IN CARRYING**
20 **OUT THE STATE'S POLICY, THE COMMISSION MUST CONSIDER**
21 **RULES AS THEY APPLY TO THE COSTS OF ELECTRIC**
22 **DISTRIBUTION INFRASTRUCTURE, INCLUDING, BUT NOT LIMITED**

¹¹ *In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Adjust Rider DDR*, Case No. 11-5905-EL-RDR, Opinion and Order (May 30, 2012).

1 **TO, LINE EXTENSIONS, FOR THE PURPOSE OF DEVELOPMENT IN**
2 **THIS STATE.**

3 A. This state policy requires the Commission to take certain actions with regard to
4 administrative rules that it has promulgated. In addition, it explains that it is a
5 state policy to facilitate its own effectiveness in the global economy. Global
6 effectiveness is fostered by many factors, one of which is reasonable power
7 prices. Thus, a pricing plan that will result in a reasonable, stable, and transparent
8 price structure will result in positive changes in global effectiveness. The
9 proposed ESP incorporates such a pricing plan.

10 Duke Energy Ohio has focused on modernizing its grid for several years
11 and proposes to continue this effort in this ESP. The existence of a modern grid is
12 integral to attracting new investment and keeping existing business in the
13 Company's service territory. Company witnesses Hart, Schneider, and Hunsicker
14 discuss the programs intended to enable an effective modern distribution system,
15 thereby positioning our customers in southwest Ohio to fully utilize the benefits
16 that such an advanced system is capable of providing. As previously stated,
17 Company witnesses Wathen discusses the proposed recovery mechanism for this
18 program.

19 The Commission has enacted a regulation regarding creation of uniform
20 line extension policies among the EDUs throughout the state. Duke Energy Ohio
21 has a line extension tariff that was approved by the Commission and is consistent
22 with that policy. The Company is not seeking to change or amend that policy in
23 connection with these proceedings.

1 And, as mentioned above, the Company's proposed pilot distribution
2 battery energy storage system will allow the Company to obtain important
3 information as to the effectiveness of this form of storage while simultaneously
4 providing benefits to certain customers in the Duke Energy Ohio service territory
5 that have an impact outside of Ohio.

6 Finally, the proposed ESP is an economic development tool insofar as it
7 enables customers to take advantage of unfettered market-based competition for
8 the supply of capacity and energy.

IV. INTRODUCTION OF WITNESSES

9 **Q. PLEASE INTRODUCE THE OTHER WITNESSES IN THESE**
10 **PROCEEDINGS.**

11 A. I identify below the other individuals who will present testimony on behalf of
12 Duke Energy Ohio, as well as the subject matters of their respective testimony:

- 13 • Robert J. Lee, Principal, CRA International, Inc. d/b/a Charles River
14 Associates
- 15 • Mr. Lee will present testimony on the CBP plan to be administered
16 under the ESP; including, but not limited to, the auction design,
17 parameters, and the selection of winning bids for both the SSO load
18 and the PIPP load.
- 19 • William Don Wathen Jr., Director, Rates and Regulatory Strategy, Ohio and
20 Kentucky
- 21 • Mr. Wathen provides an overview of the proposed ESP. He testifies
22 about the new riders included therein, as well as those that will remain

1 unchanged by this Application. Mr. Wathen also addresses the “better-
2 in-the-aggregate test” and governmental aggregation.

- 3 • James E. Ziolkowski, Director, Rates and Regulatory Planning
- 4 • Mr. Ziolkowski offers testimony regarding proposed new riders, riders
5 to be withdrawn, riders to be modified, and continuing riders, as well
6 as any additional tariff changes. As a part of those discussions, he also
7 discusses bill impacts.

- 8 • Scott B. Nicholson, Manager, Ohio Customer Choice
- 9 • Mr. Nicholson offers testimony regarding the Company’s proposed
10 revisions to its Certified Supplier Tariff and purchase of accounts
11 receivable program.

- 12 • Cicely M. Hart, Director of Distribution Design
- 13 • Ms. Hart provides testimony on the Company’s existing Distribution
14 Capital Investment Rider (Rider DCI).

- 15 • Donald L. Schneider, Jr., General Manager, Advanced Metering Infrastructure
16 (AMI)
- 17 • Mr. Schneider addresses the Company’s AMI deployment and
18 initiatives necessary to enable continued evolution of the metering
19 infrastructure.

- 20 • Retha Hunsicker, Vice-President, Customer Operations
- 21 • Ms. Hunsicker provides testimony related to enhancements to the
22 Company’s customer information system.

- 23 • Zachary Kuznar, Director, CHP Microgrids & Energy Storage

- 1 • Mr. Kuznar offers testimony regarding the Company's proposal in
2 respect of a distribution battery energy storage system.
- 3 • Sarah E. Lawler, Utility Strategy Director, Midwest
- 4 • Ms. Lawler provides testimony supporting the continuation of an
5 existing tracking mechanism and the methodology being proposed for
6 the Company's significantly excessive earnings test.
- 7 • Karen M. Hayden, General Manager, Distribution Vegetation Management
- 8 • Ms. Hayden provides testimony on the Company's vegetation
9 management program and related cost recovery.
- 10 • Robert H. "Beau" Pratt, Director, Regional Financial Forecasting
- 11 • Mr. Pratt, through his testimony, provides the financial projections
12 required in connection with the ESP proposal.
- 13 • Christian E. Whicker, Director, Compliance
- 14 • Mr. Whicker provides testimony concerning the corporate separation
15 plan and how it is consistent with applicable state policy.

V. ATTACHMENTS SPONSORED BY WITNESS

16 **Q. PLEASE DESCRIBE ATTACHMENT A OF THE APPLICATION.**

17 A. Attachment A of the Application is a list of the filing requirements for the ESP as
18 set forth in O.A.C 4901:1-35-03(C) and confirmation of how the Company has
19 met those requirements as part of this Application.

20 **Q. PLEASE DESCRIBE ATTACHMENT L OF THE APPLICATION.**

21 A. Attachment L of the Application is a copy of the notice of the Application that
22 Duke Energy Ohio has provided, concurrently with the filing of the Application,

1 to each party in its most recent SSO proceeding. Attached to that notice is the
2 service list, showing all parties upon whom the notice was served. There are no
3 waiver requests. The notice states that a copy of the Application is available
4 through the Duke Energy Ohio website and the Commission's website, at Duke
5 Energy Ohio's main office, and at the Commission's offices.

6 **Q. PLEASE DESCRIBE ATTACHMENT M OF THE APPLICATION.**

7 A. Attachment M of the Application is a copy of a proposed notice for newspaper
8 publication. The proposed notice fully discloses the substance of the Application,
9 including projected rate impacts, and prominently states that any person may
10 request to become a party to the proceeding.

VI. CONCLUSION

11 **Q. WERE ATTACHMENTS A, L, AND M PREPARED BY YOU OR UNDER**
12 **YOUR SUPERVISION?**

13 A. Yes.

14 **Q. IS THE INFORMATION YOU SPONSORED IN ATTACHMENTS A, L,**
15 **AND M TRUE AND ACCURATE TO THE BEST OF YOUR**
16 **KNOWLEDGE AND BELIEF?**

17 A. Yes.

18 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

19 A. Yes.

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to)	
Establish a Standard Service Offer)	
Pursuant to Section 4928.143, Revised	)	Case No. 17-1263-EL-SSO
Code, in the Form of an Electric Security)	
Plan, Accounting Modifications and)	
Tariffs for Generation Service.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Amend	)	Case No. 17-1264-EL-ATA
its Certified Supplier Tariff, P.U.C.O. No.)	
20.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Defer	)	Case No. 17-1265-EL-AAM
Vegetation Management Costs.)	

DIRECT TESTIMONY OF

ROBERT J. LEE

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 1, 2017

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION.....	1
II. DESCRIPTION OF THE CBP SOLICITATIONS.....	6
III. THE PROPOSED CBP IS CONSISTENT WITH OHIO LAW.....	29
IV. DUKE ENERGY OHIO AUCTIONS CONDUCTED TO DATE	33
V. PIPP LOAD PROCUREMENT	34
VI. CONCLUSION	38

Attachment:

RJL-1: Curriculum Vitae

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME, PROFESSIONAL POSITION, BUSINESS**
2 **ADDRESS, AND FOR WHOM YOU ARE TESTIFYING.**

3 A. My name is Robert J. Lee. I am a Vice President at CRA International, Inc. d/b/a
4 Charles River Associates (CRA) and a member of CRA's Auctions &
5 Competitive Bidding consulting practice. Founded in 1965, CRA provides
6 economic and financial expertise and management consulting services to
7 businesses, law firms, accounting firms, and governments. My business address
8 is John Hancock Tower, T-9, 200 Clarendon Street, Boston, Massachusetts
9 02116. I am testifying on behalf of Duke Energy Ohio, Inc., (Duke Energy Ohio
10 or the Company).

11 **Q. WHAT ARE YOUR EDUCATIONAL AND PROFESSIONAL**
12 **BACKGROUNDS?**

13 A. I received an MSIA degree from Carnegie Mellon University in Pittsburgh in
14 1996. I have worked at CRA since 2001. From the mid 1990s through the mid
15 2000s, my work focused on the domestic energy sector and focused on the power
16 sector specifically. Currently, the majority of my work is in CRA's Auctions and
17 Competitive Bidding Practice. CRA's Auction & Competitive Bidding practice
18 designs and conducts auctions and other bidding mechanisms in various industries
19 including electricity. Since 2009, I have worked on Default Service procurements
20 and other related issues in Ohio, Pennsylvania and other jurisdictions. In addition
21 to the design and execution of such processes, CRA acts as independent monitor
22 of bidding processes and provides support to bidders. In the course of that work, I

1 have played a leadership role on auctions or RFPs in a broad set of industries
2 including insurance, telecom, agriculture and real estate. My curriculum vitae is
3 marked as Attachment RJL-1, listing my background and experience in further
4 detail.

5 **Q. HAVE YOU PREVIOUSLY WORKED ON MATTERS ON BEHALF OF**
6 **DUKE ENERGY OHIO BEFORE THE PUBLIC UTILITIES**
7 **COMMISSION OF OHIO?**

8 A. Yes I have. In the fall of 2010, I testified on behalf of Duke Energy Ohio in
9 connection with its request, in Case Number 10-2586-EL-SSO for approval of a
10 market rate offer (MRO).¹ I also testified for Duke Energy Ohio in Case Number
11 11-3549-EL-SSO, *et al.*, related to the competitive bidding process (CBP) plan
12 used to secure supply for its Standard Service Offer (SSO).² In association with
13 that case, CRA was retained by Duke Energy Ohio for structured procurements
14 from 2011 through 2013 and I served as part of the CRA Auction Manager team
15 for those procurements. In 2014, I testified for Duke Energy Ohio in case number
16 14-841-EL-SSO, *et al.* in a similar capacity for Duke Energy Ohio related to
17 default service procurements conducted between 2015 and 2017.³

¹ *In the Matter of the Application of Duke Energy Ohio for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications, and Tariffs for Generation Service*, Case No. 10-2586-EL-SSO, Transcript Vol. I, at pp. 161-204 (October 5, 2012).

² *In the Matter of the Application of Duke Energy Ohio, Inc., for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Supply, Accounting Modifications, and Tariffs for Generation Service*, Case No. 11-3549-EL-SSO, *et al.*, Transcript Vol. I, at pp. 45-48 (November 9, 2011).

³ *In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service*, Case No. 14-841-EL-SSO, *et al.*, Transcript Vol. II, at pp. 304-335 (October 23, 2014).

1 **Q. HAVE YOU PREVIOUSLY WORKED ON OTHER MATTERS BEFORE**
2 **THE PUBLIC UTILITIES COMMISSION OF OHIO?**

3 A. Yes I have. In addition to the Duke Energy Ohio matters I mentioned previously,
4 CRA has also been retained by FirstEnergy's Ohio electric distribution utility
5 companies (FirstEnergy Companies) and has been conducting structured
6 procurements for them since 2009.⁴ I serve as part of the CRA Auction Manager
7 team for those procurements. CRA was also retained by the Dayton Power and
8 Light Company (DP&L)⁵ for structured procurements from 2013 through 2015. I
9 submitted testimony on behalf of DP&L related to their 2013 through 2015 CBP
10 plan as well as their currently pending ESP.⁶ Finally, during the late 1990s, prior
11 to joining CRA, I worked on behalf of Cinergy Corp. and DP&L on their
12 transition plans related to the deregulation of the Ohio power sector.

13 **Q. AS PART OF THE AUCTION MANAGER TEAM FOR STRUCTURED**
14 **PROCUREMENTS, HAVE YOU HAD OCCASION TO INTERACT WITH**
15 **THE PUBLIC UTILITIES COMMISSION OF OHIO?**

16 A. Yes, as I stated previously, CRA has worked with the Public Utilities Commission
17 of Ohio (Commission) in administering and conducting the structured

⁴ *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Establish a Standard Service Offer*, Case No. 10-388-EL-SSO, Opinion and Order (August 25, 2010), *In the Matter of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 12-1230-EL-SSO, Opinion and Order (July 18, 2012); *In the Matter of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 14-1297-EL-SSO, Opinion and Order (March 31, 2016).

⁵ *In the Matter of the Application of The Dayton Power and Light Company for Approval of Its Electric Security Plan*, Case No 12-426-EL-SSO, et al., Application (October 5, 2010).

⁶ *In the Matter of the Application of The Dayton Power and Light Company for Approval of Its Electric Security Plan*, Case No. 16-0395-EL-SSO.

1 procurement auctions for Duke Energy Ohio, the FirstEnergy Companies, and
2 DP&L. This interaction included, but was not limited to, elements of the design
3 of the CBP plan, product definition, bidding format, and general indications of
4 interest from prospective bidders.

5 **Q. DURING THESE INTERACTIONS WITH THE COMMISSION, DID THE**
6 **COMMISSION EVER EXPRESS CONCERN AS TO CRA'S**
7 **INDEPENDENT ROLE IN THE STRUCTURED PROCUREMENT**
8 **PROCESS?**

9 A. No. The Commission, either acting on its own volition or through its consultant,
10 had ready insight into the auction process and I am thus confident that CRA
11 would not have served, and would not continue to serve, in this capacity as an
12 Auction Manager if there was any question about its unbiased and independent
13 role.

14 **Q. HAS THE COMMISSION FOUND CRA TO BE AN INDEPENDENT**
15 **AUCTION MANAGER?**

16 A. Yes. To date, CRA has managed thirty SSO auctions for utilities in Ohio. The
17 results for all thirty have been approved by the Commission based on
18 recommendations of both CRA, the independent Auction Manager, and Bates,
19 White Economic Consulting,⁷ the Auction Monitor.

⁷ Formerly Boston Pacific Company, Inc.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE**
2 **PROCEEDINGS?**

3 A. CRA has been retained by Duke Energy Ohio to serve as the independent Auction
4 Manager to design and implement a CBP plan to procure SSO supply for energy,
5 capacity, ancillary services and other transmission services for delivery periods
6 beginning on June 1, 2018, and concluding on May 31, 2024. My testimony
7 describes how the proposed solicitations will work, what alternative CBP designs
8 were considered, and how the proposed CBP supports the establishment of an
9 electric security plan (ESP) under Section 4928.143 of the Ohio Revised Code.

10 **Q. WHAT ARE THE ATTACHMENTS AND SCHEDULES FOR WHICH**
11 **YOU ARE RESPONSIBLE?**

12 A. I am sponsoring all or part of the following items:

- 13 • Attachment RJJ-1 – Curriculum vitae
- 14 • Attachment B to the Application – Schedule and Timeline
- 15 • Attachment C to the Application – Master SSO Supply Agreement
- 16 • Attachment D to the Application – SSO Parts 1 and 2 Application Documents
- 17 • Attachment E to the Application – SSO Bidding Rules
- 18 • Attachment F to the Application – SSO Communications Protocols
- 19 • Attachment G to the Application – Glossary
- 20 • Attachment H to the Application – Master PIPP Supply Agreement
- 21 • Attachment I to the Application – PIPP Application Document
- 22 • Attachment J to the Application – PIPP Bidding Rules
- 23 • Attachment K to the Application – PIPP Communications Protocols

II. DESCRIPTION OF THE SSO CBP SOLICITATIONS

1 **Q. PLEASE SUMMARIZE THE CRITERIA THAT INFLUENCED THE**
2 **DEVELOPMENT OF THE CBP PLAN UNDER THE COMPANY'S**
3 **PROPOSED ESP.**

4 A. R.C. 4928.143 does not specifically address the procurement of any aspect of
5 generation service through a competitive process. Rather, it requires that an
6 electric distribution utility include in its ESP provisions related to the supply and
7 pricing of generation service. In this regard, the Commission requirements
8 contemplate that the utility explain and support each aspect of the ESP.

9 Duke Energy Ohio's CBP plan is supported – and guided – by the relevant
10 statutory and Commission rule requirements applicable to a CBP plan under R.C.
11 4928.142. The CBP plan proposed in these proceedings is nearly identical in
12 structure to the CBP plan approved by the Commission as part of the Company's
13 current ESP, which will terminate on May 31, 2018.

14 **Q. PLEASE DESCRIBE THE CBP PLAN.**

15 A. The CBP plan is designed to promote open, fair, and transparent competitive
16 solicitations with clear product definitions, standardized bid evaluation criteria,
17 oversight by an independent third party, and the evaluation of the submitted bids
18 prior to the selection of the least-cost bid winner or winners. The major elements
19 include the following:

- 20 • Developing products and contract terms, as formalized in the Master SSO
21 Supply Agreement, that encourage participation from a range of power
22 industry and financial institutions.

- 1 • Maintaining a CBP Information Website that facilitates interest and
2 participation by providing documents, announcements, a timeline
3 including deadlines for the CBP, load and other data, frequently asked
4 questions (FAQs), and other information.
- 5 • Conducting bidder information sessions and other pre-bidding activities to
6 promote and encourage participation.
- 7 • Developing communications protocols to ensure parties have equal access
8 to information.
- 9 • Administering the two-part bidder application process, including
10 establishing financial and non-financial requirements to encourage
11 participation by serious parties.
- 12 • Developing the auction design and bidding procedures to attract bidders
13 and to promote competitive bidding.
- 14 • Educating and training bidders through informational materials and mock
15 auctions.
- 16 • Customizing and testing the bidding platform and help desk facility.
- 17 • Providing starting prices for the CBP auction that are intended to attract
18 bidding participation.
- 19 • Conducting each solicitation in accordance with the bidding rules and in a
20 manner that promotes participation and allows for verification of
21 procedures and results.

- 1 • Submitting a post-bidding report to the Commission that allows the
2 Commission to approve and confirm the process used to select the least-
3 cost bid(s) and bidder(s) in the CBP.

4 **Q. WHAT IS THE PRODUCT THAT WILL BE PROCURED IN THE**
5 **WHOLESALE ENERGY AUCTIONS UNDER THE CBP PLAN?**

6 A. The product in Duke Energy Ohio's CBP plan is an hourly, load-following full
7 requirements tranche of the Company's entire SSO load, which now excludes the
8 load of percentage of income payment plan (PIPP) customers. For purposes of
9 this description, a tranche is defined as 1.0 percent, or a slice, of the Company's
10 total SSO load obligation for energy, capacity, ancillary services and other
11 transmission services. The Company will include different products of varying
12 contract durations necessary to meet all of its SSO load via a competitive process.
13 To achieve consistent, price-smoothing benefits for customers over the long term,
14 Duke Energy Ohio is planning for a mix of varying term contract durations, where
15 possible, for the ESP period. Regardless of the length of time to which a supplier
16 commits, each successful supplier will provide full requirements SSO supply,
17 including energy, capacity, transmission ancillaries, and other transmission
18 services as defined in the Master SSO Supply Agreement.

19 **Q. HOW OFTEN WILL THE AUCTIONS BE CONDUCTED?**

20 A. Duke Energy Ohio proposes to conduct two auctions for each delivery year of the
21 ESP, consistent with the comments received through a survey of participants
22 conducted in January 2012. This bidding schedule is also consistent with the
23 recommendations of the Commission's consultant, Boston Pacific Company,

1 presented in January 2014.⁸ Multiple procurements reduce the risk that SSO
2 prices will be significantly impacted by short-term market conditions at the time
3 an individual procurement is conducted.

4 **Q. HOW WILL THE PRODUCT DEFINITIONS AND CONTRACT TERMS**
5 **ENCOURAGE PARTICIPATION?**

6 A. The products and contract terms are familiar to market participants and
7 prospective bidders. They are standardized and yet provide flexibility through
8 staggered contract delivery periods that allow participants to bid their preferred
9 supply profile over time. The tranche size also encourages participation from a
10 range of potential suppliers, where each tranche is a specified, fixed percentage of
11 the SSO load. Additionally, the contract term for Master SSO Supply Agreement
12 will be aligned with the PJM Interconnection, L.L.C., (PJM) calendar for the
13 purpose of providing potential suppliers with better information as to the potential
14 cost of their capacity obligations under the Master Supply SSO Agreement.

15 **Q. HOW WILL PROSPECTIVE BIDDERS AND OTHER PARTICIPANTS**
16 **BE KEPT INFORMED DURING THE CBP?**

17 A. Documents, announcements, a timeline, load data, FAQs, and other information
18 will be readily available via the CBP Information Website, which will be hosted
19 and updated regularly by the Auction Manager. Interested parties can register at
20 the Information Website to receive updates and announcements about the CBP
21 directly via email. Parties can submit questions and comments to the Auction
22 Manager directly via a link on the Information Website or via email. Responses

⁸ Review of Duke Energy Ohio SSO procurements, presented by Frank Mossburg of the Boston Pacific Company on January 17, 2014.

1 will be posted to the FAQ section of the Information Website, and registered
2 parties will receive email notifications of new information posted to the
3 Information Website. In addition to the Information Website, bidder information
4 sessions will be conducted with presentations about the CBP and with time
5 allowed for attendees to ask questions. To date, the bidder information sessions
6 have all been conducted via Web conference to accommodate prospective bidders
7 that may not be able to attend such sessions in person. Web conferences provide
8 the additional benefit that participation is anonymous and low cost and requires a
9 limited time commitment from interested parties. Although CRA would be
10 willing to conduct open sessions to the extent that the Commission or Staff feels
11 such sessions would be useful, it is my recommendation that the Web-based
12 format be retained for the proposed solicitations. Bidders also will be encouraged
13 to participate in mock auctions to familiarize themselves with the bidding
14 platform and procedures.

15 **Q. WHAT LOAD INFORMATION WILL BE MADE AVAILABLE TO**
16 **BIDDERS?**

17 A. As described in the SSO Bidding Rules provided as Attachment E to the
18 Application, Duke Energy Ohio will make available to prospective suppliers the
19 following information: Three years worth of historical hourly load data for total
20 retail load and SSO load, historical switching statistics at the customer meter
21 level, PIPP load data at the customer meter level, and the peak load contribution
22 for SSO and switched load. This information will be available on the CBP

1 Information Website prior to qualification. The Company's retail electric tariffs
2 are available on its public website.

3 **Q. WHAT PRECAUTIONS AND PROCEDURES WILL BE FOLLOWED TO**
4 **ENSURE APPROPRIATE COMMUNICATIONS AND INFORMATION**
5 **EXCHANGE?**

6 A. The Communications Protocols establish what communications are permitted
7 among various parties including the Auction Manager, Duke Energy Ohio, the
8 Commission, Commission Staff, and prospective bidders. The SSO
9 Communications Protocols are found as Attachment F to the Application. The
10 protocols are intended to protect confidential information and to allow equal
11 access to information without providing any advantage or disadvantage to
12 prospective bidders.

13 The Auction Manager will provide the communications channel for
14 interested parties. This includes addressing questions from parties about the CBP,
15 providing information via the CBP Information Website, broadcasting email
16 notifications to registered parties (using the bcc email field), conducting bidder
17 information sessions, managing the auctions, communicating results, and
18 submitting a post-bidding report. This will facilitate a process in which
19 information is provided consistently, in a timely manner, and on an equal basis to
20 all parties.

21 Certain individuals at Duke Energy Ohio will be part of the information
22 exchange, but in a limited way and only to support the competitiveness and
23 success of the CBP. Their role primarily will be as follows: development of data

1 posted to the CBP Information Website, assistance on FAQs (they will not know
2 the identity of those asking questions), assistance in reviewing certain information
3 in the Part 1 Applications (to determine creditworthiness and pre-bid security
4 requirements), confirming the pre-bid security posted as part of the Part 2
5 Applications, and administration of the Master SSO Supply Agreement.

6 **Q. PLEASE DESCRIBE THE MASTER SSO SUPPLY AGREEMENT.**

7 A. The Master SSO Supply Agreement sets forth the contractual obligations of
8 successful suppliers and the Company with respect to each auction. The
9 Agreement expressly details the terms and conditions that will govern the
10 relationship between the Company and successful suppliers. The Master SSO
11 Supply Agreement must be executed by each successful supplier in the prescribed
12 period of time; otherwise, Duke Energy Ohio has the right to consider the
13 agreement void and to retain any pre-bid security provided by the successful
14 supplier.

15 **Q. WHAT IS THE CONTINGENCY PLAN IF ONE OR MORE OF THE**
16 **SUPPLIERS DEFAULT PRIOR TO OR DURING THE DELIVERY**
17 **PERIOD?**

18 A. The Master SSO Supply Agreement addresses default and the remedies available
19 to Duke Energy Ohio should a supplier default on its contractual obligations. To
20 summarize, should a supplier default and not cure that default in a timely basis,
21 Duke Energy Ohio may terminate the contract with no remaining contractual
22 obligations owing to that defaulting supplier and may also seek monetary
23 damages from the defaulting supplier. Monetary damages may include, but are

1 not limited to, withholding payment for prior supplier performances and/or
2 pursuing its rights under any credit support provided by a supplier such as a
3 guaranty of-letter of credit. Duke Energy Ohio will fill the tranches of the
4 defaulted supplier by purchasing the necessary supply through the PJM-
5 administered markets. Open tranches made available by defaulting suppliers will
6 be offered to current SSO suppliers as soon as practicable consistent with the
7 procedures set forth in Section 7.4 of the Master SSO Supply Agreement.

8 **Q. WHAT ARE CREDITWORTHINESS STANDARDS AND WHY ARE**
9 **THEY NEEDED?**

10 A. It is typical of commercial power transactions to include standards around
11 creditworthiness. This serves to ensure that the contracting entity that does
12 perform under the contract is not financially disadvantaged should the other
13 contracting party default. In other words, the creditworthiness requirements under
14 the Master SSO Supply Agreement are intended to allow the Company to recover
15 monetary damages from the supplier where that supplier is responsible for
16 causing damages to the Company. It is thus commercially reasonable for Duke
17 Energy Ohio to include these provisions in the Master SSO Supply Agreement, as
18 without these provisions, its customers would likely have a higher risk of
19 absorbing the costs associated with a supplier's default. Should the Company have
20 unreimbursed costs as a result of procuring power in the spot market due to a
21 supplier's default, it will seek to recover those costs through Rider SCR (supplier
22 cost reconciliation rider). But it will first enforce the Master SSO Supply

1 Agreement and exhaust all available remedies before seeking recovery through
2 the Rider SCR.

3 **Q. PLEASE PROVIDE AN OVERVIEW OF THE BIDDER APPLICATION**
4 **AND QUALIFICATION PROCESS FOR SSO AUCTIONS.**

5 A. To participate in the CBP, prospective bidders will need to satisfy financial and
6 non-financial requirements through a two-part application process. The purpose
7 of the two-part application process is for prospective bidders to demonstrate their
8 ability and commitment to meet the requirements of participation in the CBP and
9 the requirements of being an SSO Supplier as set forth in the Master SSO Supply
10 Agreement (Attachment C to the Application). The Part 1 and Part 2 Applications
11 are included as Attachment D to the Company's Application. As much as
12 possible, the Part 1 and Part 2 Application process will be conducted
13 electronically via the CBP Information Website. The process is designed to be
14 secure and to make it easier and less time consuming for applicants to submit
15 applications, check on the status of their applications, and cure any deficiencies.
16 The process also facilitates the review and assessment of applications and allows
17 the Auction Manager team to provide feedback to the applicants. If an applicant
18 prefers to submit its applications manually, the Part 1 and Part 2 Application
19 forms will be available on the CBP Information Website for download.

20 **Q. PLEASE DESCRIBE THE PART 1 APPLICATION PROCESS.**

21 A. In its Part 1 Application, a prospective bidder must satisfy the following
22 requirements:

- 23 • Submit a completed application.

- 1 • Provide contact information for the applicant and for designated
2 representatives of the applicant.
- 3 • Agree to comply with the provisions of the Master SSO Supply
4 Agreement and all the rules of the CBP, including the SSO
5 Communications Protocols.
- 6 • Demonstrate regional transmission organization participant status, or
7 certify that there are no impediments to establishing that status prior to the
8 start of the relevant SSO supply period.
- 9 • Provide financial and credit information to be used in determining
10 creditworthiness and credit requirements.
- 11 • Make certifications regarding confidentiality and other matters.
- 12 • Part 1 Applications are to be submitted by the Part 1 Application due date.

13 The Auction Manager team will process and evaluate all Part 1
14 Applications to determine whether each applicant has satisfied the requirements
15 of Part 1. Financial and credit information will be submitted to representatives of
16 Duke Energy Ohio in order to conduct a creditworthiness assessment. If an
17 applicant's Part 1 Application is incomplete or requires clarification, the Auction
18 Manager will send a deficiency notice to the applicant, and the applicant will have
19 until the end of the next business day or until the Part 1 Application due date —
20 whichever is later — to respond.

21 Following the evaluation of Part 1 Applications, the Auction Manager will
22 notify each Part 1 applicant whether or not they have successfully completed the
23 Part 1 Application process to become a Qualified Bidder. The Auction Manager

1 will send a Notification of Qualification to each Qualified Bidder that will include
2 details about the pre-bid security the Qualified Bidder will be required to post as
3 part of its Part 2 Application. The Auction Manager will send a list of the
4 Qualified Bidders to each Qualified Bidder, including representatives from Duke
5 Energy Ohio, Commission Staff, and any advisor who Commission Staff may
6 have retained for this purpose, as well as to other parties as necessary to oversee
7 the proper conduct of the CBP. All parties, including Qualified Bidders, will have
8 undertaken to maintain the confidentiality of the list of Qualified Bidders, as
9 further explained in the SSO Communications Protocols. The terms relevant to
10 the SSO Communications Protocols as well as other auction documents are
11 contained in the Glossary (Attachment G) to the Application.

12 **Q. PLEASE DESCRIBE THE PART 2 APPLICATION PROCESS.**

13 A. To continue participation in the CBP, Qualified Bidders must submit a Part 2
14 Application. In the Part 2 Application, the Qualified Bidder makes a number of
15 certifications regarding its associations with other Qualified Bidders in order to
16 ensure that each Qualified Bidder participates independently of other Qualified
17 Bidders and to ensure the confidentiality of information regarding the CBP. Also
18 with the Part 2 Application, each Qualified Bidder must submit an indicative offer
19 that specifies the number of tranches that it would be willing to serve at the
20 minimum starting price and at the maximum starting price.

21 Part 2 applicants also must post pre-bid security in the form of a letter of
22 credit or electronic wire transfer sufficient to support its indicative offer. A Part 2
23 applicant also may be required to submit additional security in the form of a letter

1 of intent to provide a guaranty and/or a letter of reference; such a requirement
2 would be determined during the assessment of the Part 1 Applications. Any pre-
3 bid security submitted to support the indicative offer must be in a form acceptable
4 to the Duke Energy Ohio. Sample pre-bid security documents will be posted to
5 the CBP Information Website and are attached as appendices to the Part 1 and
6 Part 2 Application forms, which are provided in Attachment D to the Company's
7 Application.

8 Part 2 Applications are to be submitted by the Part 2 Application due date.
9 The Auction Manager team will process and evaluate all Part 2 Applications to
10 determine whether each applicant has satisfied the requirements of Part 2. A Part
11 2 Application will be acceptable if it satisfies the following:

- 12 • Must be complete;
- 13 • Must include an indicative offer in the appropriate form;
- 14 • Must meet the requirements provided to the Part 2 applicant resulting from
15 the Part 1 Application process; and
- 16 • Must include the pre-bid security in a form acceptable to Duke Energy
17 Ohio that is sufficient to cover the indicative offer submitted by the Part 2
18 applicant at the maximum starting prices.

19 If an applicant's Part 2 Application is incomplete or requires clarification,
20 the Auction Manager will send a deficiency notice to the applicant, and the
21 applicant will have until the end of the next business day or until the Part 2
22 application due date — whichever is later — to respond.

1 Following the evaluation of Part 2 Applications, the Auction Manager will
2 notify each Part 2 applicant whether or not they have successfully completed the
3 Part 2 Application process to become a Registered Bidder. The Registered
4 Bidder's pre-bid security establishes the Registered Bidder's initial eligibility,
5 which is the maximum number of tranches the bidder will be allowed to bid in the
6 wholesale energy auction. The Auction Manager will send a Notification of
7 Registration to each Registered Bidder that will include the Registered Bidder's
8 initial eligibility. The Auction Manager will send to each Registered Bidder, as
9 well as to other parties as necessary to oversee the proper conduct of the CBP, a
10 list of the Registered Bidders and the total initial eligibility across all Registered
11 Bidders. All parties, including Registered Bidders, will have undertaken to
12 maintain the confidentiality of this information provided to them.

13 **Q. WHAT PROCEDURES WILL BE FOLLOWED IF THERE ARE**
14 **APPARENT AFFILIATE RELATIONSHIPS OR OTHER**
15 **ASSOCIATIONS AMONG PART 1 APPLICANTS?**

16 A. As outlined in Section 4.2.2 of the SSO Bidding Rules for Duke Energy Ohio's
17 Competitive Bidding Process (CBP) Auctions, the competitiveness of an auction
18 may be compromised by the coordinated or collusive behavior that bidding
19 associations may facilitate. As a result, in association with Commission Staff,
20 Duke Energy Ohio and the Auction Monitor, we developed a set of rules and
21 protocols that govern our actions in such cases. These rules, included as an
22 Appendix to the Bidding Rules, are standards that apply when associated parties
23 apply to participate in a CBP auction.

1 Restrictions on participation may include, but may not be limited to, the
2 following:

- 3 • Indicative offers may be restricted such that any applicable load cap or
4 credit based tranche cap may apply across the associated bidders;
- 5 • Pre-bid security or collateral requirements may be altered for the
6 associated bidders to ensure that associates do not gain a competitive
7 advantage over other bidders; and,
- 8 • In some cases, one or more associated bidders may not be allowed to
9 participate in the CBP auction.

10 **Q. WHAT BIDDING DESIGN WILL BE USED?**

11 A. A version of the simultaneous, multiple-round, descending-price clock auction
12 format will be used. A version of this format has been used in numerous
13 electricity procurements including in Massachusetts in 1997 and used later in
14 New Jersey, Ohio, Illinois, and elsewhere. It has been used in the CBP for Duke
15 Energy Ohio to procure SSO supply since 2011, and is currently being used in
16 CBP plans for American Electric Power, the FirstEnergy Companies and DP&L.
17 This bidding design has also been used in other jurisdictions and for buying and
18 selling other energy products. The design is also used in other industries.

19 The bidding format is simultaneous in that multiple products and/or
20 multiple tranches are bid on simultaneously. Bidding takes place typically online
21 using Web-based software in a series of bidding rounds, with pre-specified
22 starting and ending times for each round. Prior to the start of each round, the
23 announced price for each product is disclosed to bidders. The announced price is

1 the same for each tranche for a product, but may differ across products. The
2 starting announced price for each product (*i.e.*, the announced price in effect
3 during round 1) is set artificially high so as to encourage bidding participation. At
4 the end of each round, the bidding software, as overseen by the Auction Manager
5 team, determines which products are over-subscribed and which products are
6 under-subscribed. A product is over-subscribed if more supply tranches were bid
7 on it across all bidders than the number of tranches needed to procure for the
8 product. Likewise, a product is under-subscribed if fewer tranches were bid on it
9 than needed. If a product is over-subscribed, the announced price for that product
10 will be reduced by a decrement for the next round. If a product is not over-
11 subscribed, its announced price will not change for the next round. The bidding
12 process continues in this manner, with prices tending to tick down like hands on a
13 clock. As prices change across the products, bidders are allowed to change the
14 number of tranches they bid subject to certain restrictions. Subject to these
15 restrictions, in each round, a bidder simply specifies the number of tranches that it
16 is willing and able to supply for each product given the announced price for each
17 product. There is no pre-determined number of rounds before the auction closes.
18 The auction closes when the closing criteria have been met. For the auction to
19 close, the number of tranches bid for each product at the announced price must be
20 less than or equal to the supply for that product. The closing criteria are outlined
21 in detail in the SSO Bidding Rules. Winning bidders are those bidders who bid
22 the tranches that are winning tranches as of the close of the auction. The SSO

1 Bidding Rules provide a more detailed description of the bidding process and are
2 included as Attachment E to the Company's Application.

3 **Q. PLEASE DESCRIBE THE PROCESS FOLLOWING THE CLOSE OF**
4 **EACH SSO AUCTION.**

5 A. At the close of each auction, the Auction Manager will provide a report to the
6 Commission. The post-bidding report will summarize the bidding process and
7 results, and will provide a list of the least-cost bidder(s) and the number of the
8 least-cost tranches for each product for each such bidder. Duke Energy Ohio
9 proposes that the bids of the least-cost bidders be approved by the Commission
10 within forty-eight hours of the submission of the post-bidding report, with these
11 bids serving to determine the retail rates for SSO supply for the relevant periods
12 of the ESP.

13 After the last round of the auction, bidders that remained active in the
14 auction will see preliminary auction results through the Bidding Website. These
15 bidders will see the clearing prices for each product and the number of tranches
16 the bidder tentatively has won for each product. The Auction Manager also will
17 provide Duke Energy Ohio the identities of the winning bidders, the number of
18 tranches each winning bidder has won for each product, and the associated
19 clearing prices. These preliminary results remain subject to the Commission's
20 confirmation.

21 Once the winning bidder(s) have been confirmed, each winning bidder and
22 Duke Energy Ohio will execute a Master SSO Supply Agreement. Pre-bid
23 security will be returned to winning bidders upon execution of the Master SSO

1 Supply Agreements. Pre-bid security will be returned to non-winning bidders on
2 or before the fifth calendar day after the close of the auction. Pre-bid security
3 may be held back for any bidder that violated any of the rules or certifications of
4 the CBP.

5 At its discretion, the Commission may release certain non-confidential
6 information about the CBP results including winning bidders, winning tranches,
7 and clearing prices.

8 **Q. WHAT IS THE SCHEDULE FOR BIDDING AND THE TIMELINE**
9 **PROPOSED BY THE COMPANY?**

10 A. Attachment B to the Application shows the timing of CBP auctions and the
11 number of tranches up for bid in each CBP auction. The schedule calls for two
12 auctions prior to the delivery period commencing on June 1st 2018, and two
13 auctions prior to each PJM Planning Year delivery period thereafter.

14 **Q. WHAT IS THE CONTINGENCY PLAN IF NOT ENOUGH TRANCHES**
15 **ARE SECURED THROUGH A CBP AUCTION?**

16 A. In the event that fewer tranches than a product's tranche target are purchased in
17 the auction, Duke Energy Ohio will implement a Contingency Plan for the
18 unfilled tranches. Under that plan, if all tranches are not fully subscribed through
19 the auctions in any given year, any remaining tranches will be offered to current
20 Duke Energy Ohio SSO Suppliers as set forth in Section 7.4 of the Master SSO
21 Supply Agreement. These suppliers will have won tranches in the current or a
22 prior Duke Energy Ohio CBP auction. The tranches will be offered to current
23 suppliers at the clearing price, starting price, or reservation price, whichever is

1 lowest. If there still are unfilled tranches, then the necessary SSO supply
2 requirements will be met through PJM-administered markets at prevailing Day-
3 ahead, Real-time zonal spot prices. Any incremental costs would be recovered
4 through the Company's Rider SCR. More details on the Contingency Plan are
5 included in the SSO Bidding Rules.

6 **Q. HOW IS THE CBP DESIGNED TO ENCOURAGE PARTICIPATION IN**
7 **EACH WHOLESALE ENERGY AUCTION AND TO ENSURE THAT NO**
8 **ONE BIDDER IS ADVANTAGED?**

9 A. Physical generation assets are not required to participate in the CBP or to bid on
10 and win tranches. In fact, any bidder that can purchase power for delivery to the
11 Company's service territory can participate in the CBP. Nothing in the CBP
12 requires bidders to own generation and nothing in the CBP provides preferential
13 treatment to those that do own generation. The descending-price clock auction
14 format is nondiscriminatory because anyone can participate as long as they satisfy
15 the criteria used in the application process. Moreover, the CBP is a structured
16 process that levels the playing field for participants and makes information
17 available so no bidders are advantaged. All bidders are bidding on standardized
18 supply contracts and are subject to identical financial and credit requirements and
19 criteria. All bidders have equal access to information before bidding and during
20 the event itself. Prior to the auction, the process to educate and train bidders on
21 the details of the CBP and the products is the same for all bidders. During the
22 auction, all bidders receive the same information about the status of the auction.

1 **Q. ARE THERE SPECIFIC DESIGN CONSIDERATIONS CHOSEN TO**
2 **PROMOTE COMPETITION IN THE AUCTION?**

3 A. There are several rules in place designed to promote competitive bidding. These
4 include the follow:

- 5 • All bidders adhere to identical credit qualification procedures. Each
6 bidder's credit-based tranche cap is a function of clearly defined, objective
7 criteria. The criteria prevent any potential subjectivity or favoritism in the
8 process.
- 9 • All bidders are bidding on standardized supply contracts. Contracts are
10 not tailored to accommodate the needs or demands of any individual
11 bidder.
- 12 • The bidder education and training process is designed to provide all
13 bidders equal access to information. The process includes bidder
14 information sessions to educate all bidders on the CBP, the auction rules,
15 and the products being offered. The Q&A process is designed to provide
16 all bidders equal access to information related to the CBP.
- 17 • During the auction, all bidders receive the same information about the
18 status of the auction, including prices and the supply and demand
19 conditions.
- 20 • The closing criteria are applied equally to all bidders. Bids are evaluated
21 and winning bidders are determined based on price alone. Any bidder
22 willing to supply at the announced price remains active in the auction.

1 Any bidder active on a product when the auction closes is guaranteed to
2 win the rights to supply SSO load.

3 **Q. DOES THE PROPOSED CBP PROTECT AGAINST THE EXERCISE OF**
4 **MARKET POWER AND, IF SO, HOW?**

5 A. I understand that the statutes and rules only require that the electric distribution
6 utility belong to a regional transmission organization that is overseen by an
7 independent market monitor that is responsible for protecting against market
8 abuses and the improper exercise of market power. Additionally, the CBP plan
9 proposed here also provides protection against market power abuses. I would
10 further offer that the CBP plan proposed here provides protection against market
11 power abuses. As reflected in the SSO Communications Protocols, affiliates of
12 Duke Energy Ohio cannot be provided with any information regarding the CBP
13 plan that would provide them an unfair competitive advantage. Affiliates, as used
14 in the SSO Communications Protocols, include that part of its business that
15 engages in merchant activity. As I have discussed previously, all auction
16 participants are afforded the same amount of information, thus preventing any
17 perceived abuse of market power.

18 **Q. ARE CHANGES TO THE CBP POSSIBLE?**

19 A. Although the proposed CBP contains the necessary elements that result in a
20 competitive process, changes may be considered if such changes further promote
21 successful CBP solicitations.

1 **Q. WERE ALTERNATIVES TO THE PROPOSED CBP PLAN**
2 **CONSIDERED?**

3 A. A request for proposal (RFP) was considered but ultimately not pursued due to an
4 interest in designing a system that provides a more effective price discovery
5 process for bidders. Bidders are familiar with the clock auction format and it is a
6 design that has a proven record of success in Ohio.

7 For procurements with multiple products we have selected a descending-
8 price clock format. For single product procurements, we have selected a
9 descending-price clock format with a possible sealed-bid round. Both formats
10 have been used for a number of years to procure electricity and for other
11 competitive bids in electricity and in other industries. A one-shot sealed-bid
12 format is appropriate in some instances. However, for the types of products being
13 procured here, there is little if any advantage of a one-shot sealed-bid format, and
14 a descending-price clock auction format offers several advantages.

15 First, with multiple products, it is more difficult in a one-shot sealed-bid
16 format for bidders to specify their bids. The number of tranches they would be
17 willing and able to supply depends on price levels and relative prices for the
18 different products. In principle, they could submit contingent bids, specifying
19 how many tranches for each product they would bid for different combinations of
20 prices, but specifying all the possible combinations of prices would be
21 challenging.

22 Second, there is a common value element to the CBP products. This
23 means there is some uncertainty in valuing the tranches and the uncertainty is

1 shared among bidders (*e.g.*, forecasts of market prices in the future). This can
2 give rise to the winner's curse problem in which the winning bidder wins because
3 it has the lowest estimate of the cost of supplying the tranches — thus, a bidder
4 faces the risk that its bid is an outlier compared to the bids of other market
5 participants and wins at a price that is below competitive market levels. Unless
6 the winner's curse risk is addressed through the appropriate auction design,
7 bidders will compensate for the risk by bidding conservatively, leading to
8 potentially higher clearing prices for the procurement. In a one-shot sealed-bid
9 format, the winner's curse can be addressed somewhat by using uniform pricing
10 (all winning bidders for a product get paid the same price for the product) rather
11 than first-price discriminatory bidding (each winning bidder gets paid the price it
12 bid). However, the one-shot sealed-bid format lacks an effective price discovery
13 mechanism that also mitigates the winner's curse — a price discovery mechanism
14 in which bidders gain confidence from price signals reflecting other bidders' bids,
15 thereby encouraging bidders to bid more aggressively.

16 Third, with multiple products, the more that the products are related in
17 value (*e.g.*, they are substitutes and/or complements), the more important it is that
18 meaningful price signals be provided so that bidders gain information about the
19 value of the tranches, reducing risks for bidders and encouraging them to bid
20 lower prices. A one-shot sealed-bid auction does not provide these price signals,
21 thereby increasing risks faced by bidders and discouraging them from bidding
22 lower prices.

1 In contrast to the one-shot sealed-bid format, the descending-price clock
2 format allows bidders to revise their bids in response to prices that reflect
3 aggregate bidder interest in the products. Because the auction proceeds in a series
4 of rounds with announced prices reflecting competitive bids, bidders do not need
5 to be concerned with specifying combinations of hypothetical prices. There is an
6 effective price discovery mechanism: prices decline in response to supply being
7 bid, and bidders can adjust their bids accordingly. The descending-price clock
8 format provides the price transparency that facilitates effective and efficient
9 bidding among all bidders. The price signals provided through the process enable
10 bidders to bid confidently and aggressively (*i.e.*, at lower prices) without risking
11 “under-bidding the market.” The descending-price clock format also imposes
12 uniform pricing which also reduces bidders’ risks. The bidding mechanics for the
13 descending-price clock format are straightforward. It has been my experience that
14 even bidders participating in this bidding format for the first time find the logic,
15 interface, and experience intuitive and efficient.

16 Fourth, in a simultaneous, multiple-round, descending-price clock
17 procurement, bidders can switch from one of the utility’s products to another
18 product in response to price differences that they believe are not reflective of
19 underlying supply cost differences. This behavior leads to a potentially more
20 efficient outcome and contributes to pricing that is more consistent among the
21 products. Similar products will have similar prices through this process. This
22 further simplifies administration and regulatory oversight.

1 Finally, the descending-price clock format has been used successfully in
2 Ohio in the past. The format performed has well and has resulted in strong
3 participation from suppliers reflecting the competitive nature of the process. It is
4 a format that participants are used to and are comfortable with.

5 **Q. WHAT OBSTACLES MIGHT CREATE DIFFICULTIES OR BARRIERS**
6 **FOR THE ADOPTION OF THE PROPOSED CBP?**

7 A. There should be no barriers or difficulties for bidders with respect to the proposed
8 CBP. As with any competitive procurement, a critical success factor is whether
9 the products are attractive to bidders and whether bidders have been provided
10 sufficient time and information to evaluate the opportunity to participate. As part
11 of that, any uncertainties in the process that bidders face should be addressed to
12 the extent possible. The proposed CBP products are clearly defined and are
13 designed to be attractive to prospective bidders. The proposed CBP plan is
14 designed to provide sufficient time and readily available information for
15 prospective bidders to participate confidently in the CBP. Thus, as noted, there
16 should be no barriers or difficulties.

III. THE PROPOSED CBP IS CONSISTENT WITH OHIO LAW

17 **Q. IS THE PROPOSED CBP CONSISTENT WITH OHIO LAW?**

18 A. I believe it is. As I have previously discussed, the CBP plan incorporated into
19 Duke Energy Ohio's proposed ESP has been developed with reference to the
20 statutory criteria applicable to a CBP plan under an MRO. Consistent with those
21 criteria, the CBP plan here provides for all of the following:

- 22 • Open, fair, and transparent competitive solicitation;

- 1 • Clear product definition;
- 2 • Standardized bid evaluation criteria;
- 3 • Oversight by an independent third party that shall design the solicitation,
- 4 administer the bidding, and ensure that the criteria specified above are
- 5 met; and,
- 6 • Evaluation of the submitted bids prior to the selection of the least-cost bid
- 7 winner or winners.

8 **Q. WILL THERE BE LOAD CAPS FOR THE AUCTIONS?**

9 A. Yes. Although load caps may place upward pressure on the auctions' clearing
10 prices, supplier diversity provides some risk mitigation benefits to the Company
11 and ratepayers. As a result, Duke Energy Ohio is proposing to adopt a load cap
12 for the SSO auctions. The proposed load cap will be 80 percent on an aggregated
13 load basis across all auction products for each auction date such that no bidder
14 may bid on and win more tranches than the load cap. The load cap will be
15 implemented by ensuring that each bidder's initial eligibility does not exceed the
16 load cap in an auction. When affiliates or closely related entities apply to
17 participate as independent bidders, these load caps may apply across such bidders.
18 The rules and procedures governing associated bidder participation is included as
19 an Appendix to the SSO Bidding Rules.

20 **Q. IS THE CBP PLAN AN OPEN, FAIR, AND TRANSPARENT**
21 **COMPETITIVE SOLICITATION?**

22 A. The CBP provides for open, fair, and transparent competitive solicitation through
23 the product definition, the information channels, the bidder qualification process,

1 the bidding design, and the rules for participation. The products are familiar to
2 market participants and well-defined and are the same for all bidders.
3 Information about the solicitations will be timely and readily available on an
4 equal basis to interested parties. The bidder qualification process is the same for
5 all participants, familiar to market participants, and fully documented. The
6 version of the descending-price clock auction in the solicitations applies the same
7 bidding rules and procedures to all bidders and is familiar to participants. Finally,
8 all the rules for participating in the solicitation are known to all participants ahead
9 of time and applied equally to all participants. All the above encourages
10 participation, and promotes the openness, fairness, and transparency of the
11 solicitations.

12 **Q. PLEASE EXPLAIN HOW THE PROPOSED CBP PROMOTES A CLEAR**
13 **PRODUCT DEFINITION.**

14 A. The products are standardized and familiar to market participants. The products
15 are load-following, full requirements service including energy, capacity, ancillary
16 services and other transmission services. The products are well-known and
17 understood in the marketplace, and can be readily evaluated and priced by
18 bidders. All bidders know they are bidding on the same products.

19 **Q. PLEASE EXPLAIN HOW THE PROPOSED CBP PROVIDES FOR**
20 **STANDARDIZED BID EVALUATION CRITERIA.**

21 A. Bidders that submit bids are allowed to submit bids only by first successfully
22 completing the Part 1 and Part 2 Application process. That process uses
23 standardized evaluation criteria applied equally to all applicants, and ensures that

1 bidders allowed to submit bids are willing, able, and committed to satisfying the
2 obligations of an SSO supplier should they win tranches in the bidding. The two-
3 part application process ensures that non-price criteria are satisfied in evaluating
4 the qualifications of bidders to become SSO suppliers. This pre-qualification
5 process further ensures: (i) a level playing field for all bidders; (ii) a clear
6 evaluation of bids such that no bidder can gain an unfair advantage in the process;
7 (iii) that all bidders are judged on the same, standardized basis; and, (iv) that the
8 only necessary evaluation by the Commission is on price. This means that bids
9 subsequently can be evaluated on an objective, price-only basis. The bidding
10 design encourages bidders to bid supply at the lowest possible price. There is no
11 ambiguity as to the winning bids, the winning bidders, and the non-winning
12 bidders. Winning bidders win simply because non-winning bidders are not
13 willing and able to supply tranches at prices as low as the prices at which winning
14 bidders are willing and able to supply the tranches. The Commission's statutory
15 oversight in selecting the least-cost bids also ensures standardized bid evaluation
16 criteria are used.

17 **Q. PLEASE EXPLAIN HOW THE PROPOSED CBP ALLOWS FOR**
18 **OVERSIGHT BY AN INDEPENDENT THIRD PARTY.**

19 A. The Auction Manager, CRA International, has provided independent management
20 and oversight of competitive bids for numerous clients in electricity since the mid
21 1990s and CRA's remuneration as Duke Energy Ohio's Auction Manager does
22 not depend on the outcome of the CBP solicitations or which bidders win what
23 tranches at what prices.

1 **Q. PLEASE EXPLAIN HOW THE PROPOSED CBP PROVIDES FOR**
2 **EVALUATION OF THE SUBMITTED BIDS PRIOR TO THE**
3 **SELECTION OF THE LEAST-COST BID WINNER OR WINNERS.**

4 A. After the close of bidding, the Auction Manager will provide the Commission
5 with the post-bidding report that contains the information the Commission needs
6 to evaluate the solicitation and to select the least-cost bid winner(s). Consistent
7 with O.A.C. 4901:1-35-08(B), Duke Energy Ohio proposes that the Auction
8 Manager provide the report within twenty-four hours of the completion of the
9 bidding process. The report will include a summary of the results of the CBP and
10 all of the elements set forth in O.A.C. 4901:1-35-08(B) (1) through (7). Likewise,
11 although there is no express requirement to do so, Duke Energy Ohio will provide
12 access to its employees and CRA to assist the Commission in its review of the
13 CBP, as well as data, information and communications pertaining to the bidding
14 process, on a real time basis and regardless of the confidential nature of such data
15 and information.

IV. DUKE ENERGY OHIO AUCTIONS CONDUCTED TO DATE

16 **Q. WERE ALL THE AUCTIONS CONDUCTED UNDER THE PREVIOUS**
17 **ESP COMPETITIVE?**

18 A. Yes. The results for each of the ten auctions conducted as part of Duke Energy
19 Ohio's past and current ESPs (filed under Case Number 11-3549-EL-SSO, *et al.*
20 and 14-841-El-SSO, *et al.*) were accepted by the Commission. Participation was
21 broad, with approximately between ten and twenty companies – suppliers and
22 energy traders – participating in each.

1 **Q. HAVE YOU IDENTIFIED ANY ENHANCEMENTS TO THE SSO**
2 **AUCTION PROCESS THAT DUKE ENERGY OHIO IS PROPOSING IN**
3 **CONNECTION WITH THESE PROCEEDINGS?**

4 A. Yes, I have. The most major change is that PIPP load has been removed from the
5 SSO load and will be procured separately. This change was made pursuant to
6 R.C. 4928.54 consistent with the Commission's Finding and Order in Case No.
7 16-247-EL-UNC. Other changes include a revision to how credit limits affect the
8 amount of load individual bidders can bid on and win in each auction. In the past,
9 the credit limits were applied in absolute terms in each auction. For example, a
10 bidder with a credit rating of BB- or below could bid on no more than 10% of
11 Duke Energy Ohio's total SSO load in each auction. That implementation meant
12 that in years when Duke Energy Ohio was doing a single auction such a bidder
13 could bid on 10% in total. In years when Duke Energy Ohio did two auctions,
14 that same bidder could bid on 20% of the total SSO load. I have changed the
15 credit based tranche cap to a sliding scale based on the load up for bid in each
16 auction.

V. PIPP LOAD PROCUREMENT

17 **Q. IS PIPP LOAD PART OF THE SSO CBP PROCESS?**

18 A. No. In March 2016, the Commission Staff proposed a competitive bid plan to
19 serve the load of PIPP customers under R.C. 4928.54. In a March 2, 2016,
20 Finding and Order in Case No. 16-247-EL-UNC, the Commission ordered an
21 annual request for proposal (RFP) be conducted to secure supplies in support of

1 each utility's PIPP customers. CRA proposes to conduct annual RFPs consistent
2 with the Commission's directive.

3 **Q. HOW DOES THE PIPP RFP PROCESS WORK?**

4 A. CRA will conduct a single PIPP RFP on behalf of Duke Energy Ohio each year.
5 The proposed schedule timeline is reflected in Attachment B to the Application.
6 Only registered Competitive Retail Electric Service (CRES) providers in Duke's
7 service area will be allowed to participate. On a pre-specified date each year,
8 CRA will open a bid window and qualified participants will be allowed to enter
9 their best and final price to serve 100% of Duke's PIPP load for the year. As is
10 the case with the SSO load, PIPP suppliers are bidding an all-in price per MWh
11 covering energy, capacity, ancillary services and any other Load Serving Entity
12 service or other service as may be required by PJM to serve the PIPP load of
13 Duke Energy Ohio. There will be one winning bidder in the RFP process, and
14 that is the bidder that bids the lowest price per MWh.

15 **Q. ARE THERE ANY RESTRICTIONS ON THE PRICE A QUALIFIED**
16 **BIDDER IS ALLOWED TO BID?**

17 A. Yes, Each bidder must bid a price below the Benchmark Price for the RFP. The
18 Benchmark price is the weighted average price in place for the upcoming delivery
19 year for SSO customers of Duke Energy Ohio. Since bidders must bid a price
20 below the Benchmark, it ensures that PIPP load will be served at a discount to
21 SSO load so long as we receive a conforming bid from a qualified bidder

1 **Q. IN DISCUSSING THE SSO CBP, YOU NOTED THAT A CLOCK**
2 **AUCTION PROVIDES A MORE EFFECTIVE PRICE DISCOVERY**
3 **PROCESS VERSUS AN RFP. IS THAT A CONCERN IN THIS RFP?**

4 A. In the case of the PIPP RFP, the SSO auctions that set the Benchmark price will
5 help top provide price discovery for bidders in the subsequent PIPP RFPs. As a
6 result, while clock auctions are generally superior to RFP because of the
7 information provided through the process, in this case, the Benchmark price limits
8 the need for price discovery. In addition, there are no multi-product procurements
9 in association with the PIPP process, mitigating another limitation of a one-shot
10 process versus a clock auction.

11 **Q. WHAT HAPPENS IF THERE ARE NO CONFORMING BIDS?**

12 A. If there are no conforming bids in the PIPP RFP, CRA will conduct a
13 Supplemental PIPP RFP. In the Supplemental RFP, bidders are allowed to bid a
14 price that exceeds the Benchmark price.

15 **Q. WHAT IF THERE ARE NO BIDS IN A SUPPLEMENTAL RFP?**

16 A. If there are no bids in the Supplemental RFP, the PIPP supplier obligation will be
17 offered to current Duke Energy Ohio SSO Suppliers. If offering the supply
18 obligation to existing SSO suppliers is unsuccessful, the PIPP load requirements
19 will be met through PJM-administered markets at prevailing day-ahead zonal spot
20 prices. Unless otherwise instructed by the Commission, Duke Energy Ohio will
21 not enter into hedging transactions related to such PIPP load.

1 **Q. ARE THE PIPP RFP RESULTS SUBJECT TO COMMISSION**
2 **APPROVAL?**

3 A. Yes. Both the RFP and any Supplemental RFP are subject to Commission
4 approval. All bids received through the RFP and supplemental RFP are binding
5 up through Commission approval of RFP results.

6 **Q. WHAT IS THE QUALIFICATION PROCESS FOR THE PIPP RFP?**

7 A. The PIPP qualification process was modeled after the qualification process for the
8 SSO CBP. However, because there is only a single procurement each year, the
9 need and benefits of a two part qualification process is eliminated and
10 qualification is conducted in a single phase. Prospective bidders must supply
11 financial information, make certain certifications related to their participation in
12 the process and post pre-bid security prior to submitting any bid in the RFP. The
13 PIPP application, including pre-bid requirements, is contained in Attachment I to
14 the Application.

15 **Q. IS THERE A MASTER PIPP SUPPLY AGREEMENT ASSOCIATED**
16 **WITH THE RFP?**

17 A. Yes. The Master PIPP Supply Agreement, a copy of which is attached as
18 Attachment H to the Application, was modeled after the Master SSO Supply
19 Agreement. All PIPP suppliers are bidding to supply under common terms and
20 conditions.

21 **Q. WILL LOAD DATA BE PROVIDED TO BIDDERS?**

22 A. Yes. As is the case with the SSO process, Duke Energy Ohio will provide data to
23 bidders in advance of the bidding window to help them understand the obligation

1 associated with becoming the PIPP supplier. Duke Energy Ohio provides
2 identical data to both SSO bidders and PIPP bidders including hourly load data
3 for SSO and shopping customers, PLC/NSPL data, customer switching data, and
4 PIPP load data.

5 **Q. ARE THE PROCESS RULES FOR THE PIPP RFP CONSISTENT WITH**
6 **OHIO LAW?**

7 A. The PIPP RFP process rules are consistent with the Commission guidance
8 provided under the Finding and Order in Case No. 16-247-EL-UNC. The process
9 rules proposed under this ESP are consistent with those used when CRA first
10 executed a PIPP RFP on behalf of Duke Energy Ohio in May of 2016. The results
11 of that RFP were approved by the Commission in an order issued on May 4,
12 2017.⁹ The APP Bidding Rules and PIPP Communications Protocol are attached
13 to the Application as Attachments J and K, respectively.

VI. CONCLUSION

14 **Q. WAS ATTACHMENT RJL-1 PREPARED BY YOU OR UNDER YOUR**
15 **SUPERVISION?**

16 A. Yes.

17 **Q. IS THE INFORMATION CONTAINED IN ATTACHMENT RJL-1 TRUE**
18 **AND ACCURATE TO THE BEST OF YOUR KNOWLEDGE AND**
19 **BELIEF?**

20 A. Yes.

⁹ *In the Matter of the Procurement of Percentage of Income Payment Plan Program Generation for Customers of Duke Energy Ohio, Inc.*, Case No. 16-940-EL-UNC, pg. 3 (May 4, 2017).

- 1 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**
- 2 **A. Yes.**

ROBERT J. LEE

Vice President

M.S. Industrial Administration,
Carnegie Mellon University,

B.A. Mathematics,
Boston College

Mr. Lee is a Vice President in CRA's Auctions & Competitive Bidding Practice. During his consulting career, Mr. Lee has assisted numerous clients to develop structured sales and procurement channels in an array of industries and markets. He has managed structured transactions, acquisitions and divestitures in both traditional and competitive bidding environments. In addition, Mr. Lee has helped clients on a range of valuations and market analyses related to changes in market dynamics and market structure. Prior to joining CRA, Mr. Lee was a Principal with the PA Consulting Group and at Putnam, Hayes and Bartlett, Inc.

AUCTIONS AND COMPETITIVE BIDDING

Electricity

Duke Energy Ohio, Inc.

- Designed a competitive bidding process (CBP) to procure wholesale generation for retail Standard Service Offer (SSO) load for Duke Energy Ohio, Inc. covering the period from January 1, 2012 through May 31, 2018. The CBP used a clock auction format. The auction process was subject to approval by the Public Utilities Commission of Ohio (PUCO).
- Designed and managed a request for proposal process (RFP) to identify a supplier for the Percentage of income Payment Plan (PIPP) customer load of Duke Energy Ohio.

The Dayton Power and Light Company

- Designed a competitive bidding process (CBP) to procure wholesale generation for retail Standard Service Offer (SSO) load for Dayton Power and Light. The procurements covered the period from January 1, 2014 through May 31, 2017. The CBP used a clock auction format. The auction process and outcome were subject to approval by the Public Utilities Commission of Ohio (PUCO).

Duquesne Light Company

- Designed a competitive bidding process (CBP) to procure wholesale generation for retail provider of last resort (POLR VII) load for the Duquesne Light Company.

DTE Electric Company

- Managed an RFP process for DTE Electric Company (DTE). The RFP was designed to acquire a power plant to help DTE close an identified capacity shortfall. DTE acquired the East China combustion turbine from an affiliate under a process approved by FERC under affiliate transaction guidelines.

FirstEnergy Corporation

- Assisted in the design and ongoing execution of a competitive bidding processes to procure wholesale generation and capacity for retail Standard Service Offer (SSO) load of customers of FirstEnergy's Ohio Utilities — Cleveland Electric Illuminating Company, The Toledo Edison Company, and Ohio Edison Company. The auction process and outcome are subject to approval by the Public Utilities Commission of Ohio (PUCO).
- For FirstEnergy Service Company, assisted in designing and conducting a competitive bidding process using a hybrid clock auction and sealed-bid format to procure wholesale generation and capacity for retail Standard Service Offer (SSO) load to be delivered June 2009 through May 2011 to customers of FirstEnergy Ohio Utilities — Cleveland Electric Illuminating Company, The Toledo Edison Company, and Ohio Edison Company. Played a key role on the Auction Manager team including managing the mock auction and the live event. The successful auction procured more than \$6 billion in supplies. The auction process and outcome were subject to approval by the Public Utilities Commission of Ohio (PUCO).
- Designed and managed a request for proposal process (RFP) to identify a supplier for the Percentage of income Payment Plan (PIPP) customer load of FirstEnergy's Ohio Utilities.
- Managed an RFP process for FirstEnergy's Monongahela Power (Mon Power) affiliate in West Virginia. The RFP was designed to acquire a power plant to help Mon Power close an identified capacity and energy shortfall.
- Managed an RFP process for Mon Power to divest a share of the Bath County pumped storage facility.

RWE

- Auction Manager for RWE's ongoing power supply auction serving major commercial and industrial customers in Europe. Currently working with RWE and the broader CRA auction team on the auction design framework, including all bidding rules, auction parameters, and bidder support documentation and tools. In addition, Mr. Lee helped to develop and test the customized auction software working with software engineering through the design and testing process. The auction process and outcome are subject to approval by the German cartel office (BKartA).

Trans Elect

- Part of CRA's Auction Manager team on an open season auction process for Trans Elect. The open season auction process used CRA's Auction Management System to successfully sell transmission capacity rights through an open and transparent bidding process. The auction process and outcome were subject to approval by the U.S. Federal Energy Regulatory Commission (FERC).

GE EFS

- Auction Manager for the Linden VFT open season auction process. With CRA's assistance, GE successfully auctioned incremental transmission capacity from PJM into New York's Zone J. Mr. Lee worked closely with GE and the broader CRA team to design and test the customized AMS auction software and to educate bidders on the auction design parameters as well as the VFT technology. The auction process and outcome were subject to approval by the U.S. Federal Energy Regulatory Commission (FERC).

Agriculture*Ocean Spray Cranberries*

- Project Manager and Auction Manager for the development of an Internet-based trading platform for Ocean Spray Cranberries. The system, launched in the summer of 2009, represented a major innovation in an industry that lacked price transparency and adequate market signals for investment. Through the online system, Ocean Spray successfully is offering cranberry concentrate to major beverage producers worldwide.

Fonterra - GlobalDairyTrade

- Project Manager and Auction Manager for the development and administration of *globalDairyTrade*, the Internet-based auction sales channel for a major international dairy cooperative. The auction-based system represents a major departure from the industry status quo and served as a mechanism for cost reduction, efficiency improvement, and increased market transparency for the supplier and its customers. Key responsibilities include contributions on the auction design, software development, customer training processes, and client communications.

ASSET VALUATION AND MARKET STRATEGY*Confidential Client*

- Advised the successful bidder in the acquisition of a gas-fired combined cycle power plant located in a remote region of Pakistan. As part of El Paso's divestiture of its Asian power generating assets, Mr. Lee worked closely with a the buyer to value the portfolio of power sales, fuel supply and O&M contracts supporting the facility. Critical considerations included fuel supply risk, FX risk and the proper assessment of the threat of terrorism associated with the facility.

Confidential Client

- Worked closely with the management of a processed coal producer to identify the product's value versus alternative coal options. Established the breakeven value for the fuel under a range of alternative environmental, coal price and transportation cost scenarios. Helped establish the relevant geographic range under which the fuel could potentially compete and identified attractive utilities for targeted marketing activities. Identified alternative distribution strategies that would help mitigate transportation cost concerns.

Hoosier Energy

- Reviewed the NO_x SIP Call compliance plan for Hoosier Energy, a Midwestern G&T Cooperative. Worked closely with management to develop a new framework for evaluating environmental compliance options at Hoosier's principal coal-fired power stations. Identified key risk factors impacting the value of the cooperative's planned environmental expenditures, including the risk of domestic CO₂ restrictions. Identified potential cost saving and risk mitigation strategies in association with pending changes in environmental policies. Proposed alternative allowance banking strategies that would reduce financial exposure associated with SIP investments.

PSEG

- Worked with management to evaluate the impact of a range of environmental scenarios on PSEG asset values. Mr. Lee modeled an array of 3P and 4P proposals and evaluated the likely response of market participants. The modeling exercise examined the impact of incremental environmental restrictions on regional and national new capacity builds, PCE retrofits and fuel selection. In addition, the CRA team quantified the impact of proposed or pending regulations on regional power market prices and on the prices for tradable emissions credits.

Triton Coal

- Advised the management of Triton Coal on antitrust issues associated with their divestiture of the Buckskin and North Rochelle coal mines located in the Wyoming portion of the Powder River Basin. Identified substitute products including coal from alternative producing basins and power generation from alternative fuels. Identified the market for Powder River Basin coal based on transportation access and costs as well as coal quality considerations. Evaluated bidders based on the potential impact of the acquisition on market concentrations. Balanced the bid price for resources versus the likelihood that a potential sale would withstand DOJ scrutiny.

Foster Wheeler

- Performed a strategic assessment of the international coal boiler market for Foster Wheeler. Identified key markets for growth in coal-fired power generation over the near, mid and long-term. Considered key issues such as resource availability, environmental policy uncertainties and power demand growth. Worked closely with Foster Wheeler Oy to identify attractive markets for their CFB coal-boiler marketing activities.

British Petroleum

- Examined the potential strategic impacts of btu convergence on coal and oil markets. The analysis evaluated the economics of coal-to-liquids, coal-to-gas and underground coal gasification. Identified regional discontinuities on project economics and participated in workshops designed to assess opportunities in the coal space and their impact on markets for oil, coal and power.

The Dayton Power and Light Company – AES Ohio Generation

- Quantified the reactive power revenue requirements for the combined fossil fleet of Dayton Power and Light and AES Ohio Generation.

TESTIMONY AND ADMINISTRATIVE PROCEEDINGS

PUCO Case No. 16-0395-EL-SSO. Testimony on behalf of the Dayton Power & Light Company (DP&L) related to DP&L's application for authority to establish a Standard Service Offer pursuant to Section 4928.143, Revised Code, in the form of an Electric Security Plan.

Dayton Power and Light Company, *et al.*, *FERC Docket No. ER16-2569* Testimony in support of Dayton Power and Light Company's reactive power tariff.

AES Ohio Generation, LLC, *Docket No. FERC ER16-2570*; Testimony in support of AES Ohio Generation reactive power tariff.

DTE Electric Company, *et al.*, *Docket No. FERC EC15-138*; in support of DTE's affiliate acquisition of the East China combustion turbine located in East China Township Michigan

PUCO Case No. 14-841-EL-SSO. Testimony on behalf of the Duke Energy Ohio, Inc. (Duke) related to Duke's application for authority to establish a Standard Service Offer pursuant to Section 4928.143, Revised Code, in the form of an Electric Security Plan.

PUCO Case No. 12-426-EL-SSO. Testimony on behalf of the Dayton Power & Light Company (DP&L) related to DP&L's application for authority to establish a Standard Service Offer pursuant to Section 4928.143, Revised Code, in the form of an Electric Security Plan.

PUCO Case No. 11-3549-EL-SSO. Testimony on behalf of the Duke Energy Ohio, Inc. (Duke) related to Duke's application for authority to establish a Standard Service Offer pursuant to Section 4928.143, Revised Code, in the form of an Electric Security Plan.

PUCO Case No. 10-2586-EL-SSO. Testimony on behalf of the Duke Energy Ohio, Inc. (Duke) related to Duke's application for approval of a Market Rate Offer to conduct a competitive bidding process for Standard Service Offer electric generation supply.

Developed and presented PSEG and Exelon's joint claim for relief to the Oil Spill Liability Trust Fund, US Department of Homeland Security. Prepared the claim for damages associated with the temporary shut down of the Salem nuclear facility as a result of the November, 2004 Athos I oil spill.

PRESENTATIONS AND PUBLICATIONS

Brandeis University, Graduate School of International Business, lecturer on coal and environmental markets and energy market dynamics

National Public Radio (NPR), Marketplace, recurrent on air guest discussing coal, environmental markets and environmental policy

“Creating Markets and Structured Sales Channels”, presented at the U.S. Apple Association Outlook 2010, Chicago, IL, August 19, 2010

“Not Your Father’s Auction”, Industry Week, April 2010

“A Better Way to Transact”, Beverage Industry: Market Insights, May 2010

“NO_x Trading: Strategies for Electric Cooperatives”; with Anne Smith; Cooperative Research Network, National Rural Electric Cooperative Association; April 2003

EDUCATION

CARNEGIE MELLON UNIVERSITY,
Graduate School of Industrial Administration
MSIA (MBA)

Pittsburgh, PA

BOSTON COLLEGE
College of Arts and Sciences
BA Mathematics

Chestnut Hill, MA

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to)	
Establish a Standard Service Offer)	
Pursuant to Section 4928.143, Revised	)	Case No. 17-1263-EL-SSO
Code, in the Form of an Electric Security)	
Plan, Accounting Modifications and)	
Tariffs for Generation Service.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Amend	)	Case No. 17-1264-EL-ATA
its Certified Supplier Tariff, P.U.C.O. No.)	
20,)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Defer	)	Case No. 17-1265-EL-AAM
Vegetation Management Costs.)	

DIRECT TESTIMONY OF

WILLIAM DON WATHEN JR.

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 1, 2017

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION.....	1
II. OVERVIEW OF ELECTRIC SECURITY PLAN.....	3
III. POWERFORWARD RIDER	10
IV. ELECTRIC SERVICE RELIABILITY RIDER.....	14
V. REGULATORY MANDATES RIDER.....	16
VI. DISTRIBUTION CAPITAL INVESTMENT RIDER.....	18
VII. INCENTIVE RATEMAKING MECHANISM.....	26
VIII. PRICE STABILIZATION RIDER.....	29
IX. BETTER-IN-THE-AGGREGATE TEST	31
X. COMPETITIVENESS OF ESP IV	35
XI. GOVERNMENTAL AGGREGATION.....	36
XII. CONCLUSION	41

Attachments:

WDW-1: Projected Electric Service Reliability Rider

WDW-2: Excerpt from Ohio Edison's Distribution Capital Recovery Rider Filing

WDW-3: Projected Distribution Capital Investment Rider

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is William Don Wathen Jr., and my business address is 139 East Fourth
3 Street, Cincinnati, Ohio 45202.

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

5 A. I am employed by Duke Energy Business Services LLC (DEBS), as Director of
6 Rates and Regulatory Strategy, Ohio and Kentucky. DEBS provides various
7 administrative and other services to Duke Energy Ohio, Inc., (Duke Energy Ohio
8 or the Company) and other affiliated companies of Duke Energy Corporation
9 (Duke Energy).

10 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND**
11 **PROFESSIONAL EXPERIENCE.**

12 A. I received Bachelor Degrees in Business and Chemical Engineering, and a Master
13 of Business Administration Degree, all from the University of Kentucky. After
14 completing graduate studies, I was employed by Kentucky Utilities Company as a
15 planning analyst. In 1989, I began employment with the Indiana Utility
16 Regulatory Commission as a senior engineer. From 1992 until mid-1998, I was
17 employed by SVBK Consulting Group, where I held several positions as a
18 consultant focusing principally on utility rate matters. I was hired by Cinergy
19 Services, Inc., in 1998, as an Economic and Financial Specialist in the Budgets
20 and Forecasts Department. In 1999, I was promoted to the position of Manager,
21 Financial Forecasts. In August 2003, I was named to the position of Director -

1 Rates. On December 1, 2009, I was promoted to my current position, now titled
2 Director of Rates and Regulatory Strategy, Ohio and Kentucky.

3 **Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS DIRECTOR,**
4 **RATES AND REGULATORY STRATEGY, OHIO AND KENTUCKY.**

5 A. In my current role, I am responsible for all state and federal rate matters involving
6 Duke Energy Ohio and Duke Energy Kentucky, Inc.

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

9 A. Yes. I have submitted pre-filed testimony and have testified before the Public
10 Utilities Commission of Ohio (PUCO).

11 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE**
12 **PROCEEDINGS?**

13 A. The purpose of my testimony is to provide an overview of the Company's
14 proposed fourth electric security plan (ESP IV). More specifically, my testimony
15 includes: (1) a summary of certain proposed changes from and enhancements to
16 the current ESP; (2) a more detailed overview of the Company's proposal for a
17 PowerForward Rider; (3) support for the Company's proposed Electric Service
18 Reliability Rider; (4) support for the Company's proposed Regulatory Mandates
19 Rider; (5) support for continuing and expanding the Company's Distribution
20 Capital Investment Rider; (6) support for the Company's proposal to create an
21 Incentive Ratemaking Mechanism tied its annual earnings tests under R.C.
22 4928.143(F); (7) support for the Company's proposal to continue its Price

1 Stabilization Rider; (8) an analysis of the benefits of the proposed ESP relative to
2 the results that could be expected if the Company filed for a market rate offer
3 (MRO) under R.C. 4928.142; (9) a summary of the competitiveness of the
4 Company's ESP IV regulatory model and its consistency with other standard
5 service offers (SSOs) approved by the Commission; and (10) a discussion of how
6 the proposed ESP advances state policy related to governmental aggregation.

II. OVERVIEW OF ELECTRIC SECURITY PLAN

7 **Q. PLEASE DESCRIBE THE PRIMARY COMPONENTS OF DUKE**
8 **ENERGY OHIO'S PROPOSED ESP.**

9 A. The Company is proposing a six-year term for its next ESP, to begin on June 1,
10 2018, and end on May 31, 2024. The proposed ESP extends certain components
11 of Duke Energy Ohio's current ESP including the procurement of generation
12 supply; adds new provisions for enhancing the Company's distribution reliability
13 and ensuring the Company's financial stability; and either eliminates or refines
14 other elements.

Generation Supply and Pricing

15
16 As provided for in R.C. 4928.143(B)(1), an SSO in the form of an ESP
17 must make provision for the supply and pricing of electric generation service.
18 Thus, procurement of SSO supply is a fundamental component of the Company's
19 proposed ESP. Consistent with the terms of its current ESP, Duke Energy Ohio
20 will rely upon a competitive bidding process (CBP) plan for procuring the supply
21 necessary to serve its SSO load. Company witness Robert J. Lee discusses the
22 details more extensively in his testimony but, generally, the Company is

1 proposing to continue its current procurement practice, which entails the use of
2 competitive auctions and requests for proposals for the duration of this proposed
3 ESP.

4 The trends evident in the switching statistics available on the
5 Commission's website¹ confirm a mature competitive market in southwest Ohio.
6 Indeed, switching rates among the Company's customer classes have been stable
7 for some time. And through its established competitive procurement processes,
8 Duke Energy Ohio seeks to perpetuate this competitive market.

9 The cost of the capacity and energy procured via the auctions must be
10 converted into retail rates in the same manner as is currently being done in Duke
11 Energy Ohio's current ESP. The objective of pricing the results of the CBP
12 auction is, to the extent possible, to create no competitive advantage or
13 disadvantage between the SSO price and market prices available to customers
14 from competitive retail electric service (CRES) providers. Company witness
15 James E. Ziolkowski provides testimony describing the proposal to continue the
16 existing process for converting the winning wholesale auction prices into
17 competitive retail rates for each rate class.

18 **New Riders**

19 PowerForward Rider: In the interest of advancing the Commission's
20 current objective to modernize the electric distribution system and "enhance the
21 consumer electricity experience," the Company is proposing to implement a

¹ <https://www.puco.ohio.gov/industry-information/statistical-reports/electric-customer-choice-switch-rates-and-aggregation-activity/>

1 PowerForward Rider (Rider PF). This rider will recover incremental revenue
2 requirements (*i.e.*, revenue requirements over amounts already being recovered in
3 base rates rates) related to investments and expenses for programs designed to
4 allow Duke Energy Ohio's distribution system to keep up with changing
5 technology. In the first phase of the Commission's PowerForward review,
6 "Glimpse of the Future," numerous presenters shared their views on the rapidly
7 changing technology for the distribution grid.² The presenters in that forum left
8 little doubt that, over the course of ESP IV, the industry can expect significant
9 changes in grid technology and consumer expectations. Duke Energy Ohio is
10 proposing that its Rider PF be a mechanism to promote such changes so that its
11 customers benefit from the advances being made in maximizing consumers'
12 experiences and choices and in improving the security and reliability of the
13 distribution system.

14 Electric Service Reliability Rider: The Company is seeking approval of a
15 rider to allow it to track the operating and maintenance (O&M) costs of
16 vegetation management, above amounts included in base rates. The purpose of
17 this rider is to enable the Company to timely fulfill its obligations regarding
18 vegetation management required to operate a reliable system. As Company
19 witness Karen M. Hayden discusses in her direct testimony, the cost of vegetation
20 management is increasing significantly and, to the extent the Company's revenue
21 from base rates is insufficient to fund this important work, reliability could suffer.

² <https://www.puco.ohio.gov/industry-information/industry-topics/powerforward/phase-i-a-glimpse-at-the-future/>

1 The costs to be included in this rider exclude any costs related to major storms,
2 which are handled separately. The revenue requirement for this rider will be
3 charged to customers as a percentage of their base distribution charges.
4 Attachment WDW-1 is a summary of the projected rates for the Electric Service
5 Reliability Rider (Rider ESRR) based on the projected costs provided by
6 Company witness Hayden.

7 Regulatory Mandates Rider: The Company is seeking approval of a rider
8 mechanism to recover the costs of mandates that are not recovered via base rates
9 or other rider mechanisms. To the extent newly enacted or revised federal or state
10 laws, or Commission regulations and rulings, require expenditures from the
11 Company, the Regulatory Mandates Rider (Rider RMR) will allow the Company
12 to comply with such mandates and provide the funding for such compliance.

13 Incentive Ratemaking Mechanism: As I will discuss below, the Company
14 is proposing a balanced approach to simplify the process of addressing the
15 implications of excessively high or excessively low earnings. The proposal is to
16 create a credit that would flow to customers when Duke Energy Ohio's return on
17 equity (ROE) exceeds a threshold amount and allow the Company to collect
18 additional funds from customers when its earnings are unreasonably low. Toward
19 that end, the Company is proposing to implement an Incentive Ratemaking
20 Mechanism Rider (Rider IRM) linked to its annual significantly excessive
21 earnings test (SEET).

22 The Incentive Ratemaking Mechanism will provide refunds or charges to
23 customers based on the Company's actual ROE, as calculated in the annual SEET

1 test, allowing customers to benefit when the Company is doing well financial and
2 mitigate any threat to the Company's financial integrity when circumstances are
3 more economically challenging.

4 **Continuing Riders**

5 Distribution Capital Investment Rider: The Company is proposing to
6 continue its distribution capital investment rider (Rider DCI) with some slight
7 modifications to improve the effectiveness of the rider through the inclusion of
8 recovery of incremental revenue requirements on distribution-related general,
9 intangible, and common plant. As I will discuss later, this modification conforms
10 the Company's Rider DCI to other similar mechanisms approved by the
11 Commission and addresses a gap in the effectiveness in the current form of this
12 rider.

13 Distribution Storm Rider: The Company is proposing to continue its
14 current storm tracker mechanism, the Distribution Storm Rider (Rider DSR), to
15 track actual storm costs against amounts recovered in base rates. The "base"
16 amount will be adjusted once new rates are implemented after Commission
17 approval of Case No. 17-32-EL-AIR, *et al.* Company witness Sarah E. Lawler
18 provides further details about this rider.

19 Distribution Decoupling Mechanism: Duke Energy Ohio is proposing to
20 continue the current Decoupling Rider (Rider DDR). Company witness James E.
21 Ziolkowski provides an overview of this rider and the implications of any changes
22 to the base rates that may result from Commission action in Case No. 17-32-EL-
23 AIR, *et al.*

1 Uncollectible Rider for Generation-Related Costs: Duke Energy Ohio
2 proposes to continue its successful practice of purchasing receivables, without any
3 changes, so long as the Commission allows the Company to perpetuate its
4 uncollectible electric generation rider (Rider UE-GEN) at least as long as the
5 terms of ESP IV are in place. This purchase of receivables program reduces
6 barriers to entry to the Duke Energy Ohio retail electric market and Rider UE-
7 GEN mitigates the potential for increased financial risks to the Company from
8 offering the program.

9 Uncollectible Rider for Electric Distribution: Duke Energy Ohio proposes
10 to continue this rider in its current form but with a minor change. The Company
11 proposes to begin recovering the cost of conducting requests for proposals (RFPs)
12 for percentage of income payment plan (PIPP) load in this rider. All other costs
13 associated with serving PIPP load are recovered on a non-bypassable basis;
14 therefore, the cost of procuring generation for PIPP load should also be non-
15 bypassable. Rather than establish a new rider for a relatively small charge, Duke
16 Energy Ohio proposes to include the costs associated with the PIPP RFP process
17 in this non-bypassable uncollectible expense rider. Such a change is permitted
18 under the currently approved Rider UE-ED insofar as it allows the inclusion of
19 PIPP costs not collected through the Universal Service Fund Rider.

20 Price Stabilization Rider: The Commission approved the Price
21 Stabilization Rider (Rider PSR) in Case No. 14-841-EL-SSO, *et al.*, and further
22 directed the Company to pursue adjustment of the rider in a subsequent
23 proceeding. Consistent therewith, Duke Energy Ohio initiated a proceeding on

1 March 31, 2017, for approval to adjust Rider PSR and for related accounting
2 authority. In initially authorizing Rider PSR, the Commission affixed a
3 termination date of May 31, 2018. Although Duke Energy Ohio has requested
4 authority to adjust Rider PSR in a separate proceeding, it is seeking confirmation
5 from the Commission in these proceedings to continue the rider beyond May 31,
6 2018. I discuss the basis for this request below.

7 **Expiring Riders**

8 Load Factor Adjustment: Except for a final true-up, the Load Factor
9 Adjustment (Rider LFA) will be set to \$0, as of June 1, 2017. By the time ESP
10 IV begins, Rider LFA will be obsolete. Therefore, the Company is proposing to
11 eliminate this rider from its tariffs.

12 Economic Competitiveness Fund: The Company is proposing to end the
13 special program provided to large commercial and industrial customers allowing
14 them to receive above-market payments to participate in the PJM Interconnection
15 L.L.C.'s (PJM) demand response program. As the cost of this program is
16 currently the only cost being recovered in the Economic Competitiveness Fund
17 Rider (Rider ECF), the rider will be obsolete in ESP IV and should be eliminated
18 after any final true-ups are completed.

19 **Miscellaneous Provisions:**

20 Net Metering: Duke Energy Ohio is proposing to modify its net metering
21 tariff. As Company witness Ziolkowski discusses, the tariff is being modified so
22 that customers with excess generation during a billing period are credited with the
23 value of the energy at the then-current rate for Rider RE. The Company is

1 proposing to eliminate the credit for capacity when a customer's generation
2 exceeds its usage in a billing period. Finally, Mr. Ziolkowski describes the
3 Company's proposal to include the payments made for excess generation in its
4 Supplier Cost Reconciliation Rider (SCR Rider). Currently, the Company has no
5 means of recovering the cost of such payments and it is a burden that should not
6 be borne by shareholders.

7 **Q. ARE THERE CHANGES BEING PROPOSED FOR ANY RIDERS NOT**
8 **MENTIONED ABOVE?**

9 A. No. For those riders that I did not mention above, the Company is not proposing
10 any changes as part of this case.

III. POWERFORWARD RIDER

11 **Q. WHY IS THE COMPANY PROPOSING A POWERFORWARD RIDER?**

12 A. There are few topics of discussion in the utility industry that garner more
13 unanimous agreement than the notion that technology is rapidly transforming the
14 distribution grid. The Commission is currently reviewing the "latest in
15 technological and regulatory innovation that could serve to enhance the consumer
16 electricity experience" and hosted the first of at least three sessions in its
17 PowerForward review. As many of the presenters explained during the
18 Commission's first PowerForward review session, innovation is changing the
19 customers' experience and the customers' expectations for how they use
20 electricity service. Innovation in battery technology, information technology,
21 communication technology, and behind-the-meter generation challenges electric

1 distribution utilities (EDUs) and regulators alike to seek to transform the
2 regulatory model in a manner that promotes such innovation.

3 At its core, the regulatory paradigm is intended to allow regulated utilities
4 to earn a fair return on the investments made in fulfilling their obligation to safely
5 and reliably serve customers. Historically, however, the regulatory model has
6 reflected a protracted process, with costly and time-consuming base rate
7 proceedings through which regulated utilities recovered their investments. But
8 this traditional model is not an efficient process for addressing a rapidly changing
9 environment as it demands significant expenditures of resources and time for all
10 parties involved. The Commission recognizes this and has been thoughtful and
11 progressive in its use of riders for addressing the inefficiency of rate cases. The
12 Company's proposed PowerForward Rider is simply an extension of that
13 progressiveness, with a focus on advancing the existing technology of the
14 distribution grid and positioning the Company to effectively incorporate new
15 technologies and transform the customer experience.

16 **Q. WHAT TYPES OF PROGRAMS OR PROJECTS DOES THE COMPANY**
17 **CONTEMPLATE INCLUDING IN THIS RIDER?**

18 A. The Company envisions this rider as a mechanism to promote enhancing
19 information technology to optimize the benefits of the SmartGrid technology;
20 recover expenses associated with any grid investments necessary to promote
21 customer-owned generation; promote advanced lighting technology; promote
22 deployment of battery storage technology; transform its billing system through its

1 CustomerConnect program; and support other innovations that may not even be
2 contemplated at this point.

3 **Q. ARE THERE ANY PROGRAMS THE COMPANY PLANS TO INCLUDE**
4 **IN ITS INITIAL RIDER PF?**

5 A. In its pending distribution rate case, Case No. 17-32-EL-AIR, *et al.*, the Company
6 included in its test year expenses costs to initiate a public awareness campaign to
7 further educate customers about customer choice, safety, and energy efficiency
8 options.³ The Company also included expenses in the test year for incremental
9 O&M to replace its obsolete customer information system. If the Commission
10 determines in the pending distribution rate case that such costs are not appropriate
11 for base rate recovery, the Company is proposing that such costs be included and
12 recoverable in Rider PF. In all respects, the campaign would be the same as
13 proposed in the pending rate case.

14 Assuming the Commission approves the Company's proposed new base
15 rates and its proposal to expand Rider DCI to include distribution-related general,
16 intangible, and common plant, the Company currently has no specific programs or
17 project for which it is seeking cost recovery under Rider PF; however, it should
18 nonetheless be approved in this ESP Application as a placeholder to enable
19 recovery of costs consistent with the stated goals of the PowerForward Initiative
20 that are not otherwise recovered through some other means.

³ *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates*, Case No. 17-32-EL-AIR, *et al.*, Direct Testimony of James P. Henning, at pg. 13 (March 16, 2017).

1 **Q. HOW WILL THE REVENUE REQUIREMENT FOR THIS RIDER BE**
2 **DETERMINED?**

3 A. The revenue requirement will include return of and on any capital investments,
4 related property taxes, and any O&M expenses not already being recovered in
5 base rates or other riders. The resulting revenue requirement will be the basis for
6 calculating a percentage rate to apply to base distribution rates for recovery.

7 **Q. DOES THE COMPANY HAVE AN ESTIMATE FOR THE COSTS THAT**
8 **WILL BE INCLUDED IN THIS RIDER?**

9 A. As mentioned above, cost recovery for the programs and projects currently
10 planned by the Company should be recovered in Rider DCI or in new base rates.
11 Additional costs to be included in this rider will be influenced by the Company's
12 involvement in the Commission's PowerForward Initiative and Duke Energy
13 Ohio's pursuit of programs, services, and offerings to enhance the distribution
14 grid and transform the customer experience.

15 **Q. WHAT TYPE OF REVIEW PROCESS IS BEING PROPOSED FOR THE**
16 **RIDER PF?**

17 A. At least annually, the Company will make a filing with the Commission
18 describing the programs and projects it is then currently planning to invest in for
19 the duration of ESP IV. Within thirty days of the annual filing, Staff may file a
20 report of its recommendations with respect to the Company's proposal. Interested
21 parties, including the Company, may file responses. If the Commission has not
22 issued an order within three months of the annual filing, the Company's Power

1 Forward programs and projects will be automatically approved for inclusion in
2 Rider PF.

IV. ELECTRIC SERVICE RELIABILITY RIDER

3 **Q. DESCRIBE THE COMPANY'S PROPOSAL TO ADDRESS THE SUDDEN**
4 **INCREASE IN ITS COSTS FOR VEGETATION MANAGEMENT.**

5 A. As Company witness Hayden discusses in her testimony, Duke Energy Ohio was
6 confronted with a sudden increase in its costs for vegetation management. The
7 Company predominantly uses contractors procured through competitive bid
8 processes to perform the work required to maintain its four-year vegetation
9 management cycle. Recently, the prices for those contractors have risen
10 significantly. The abruptness of this change is such that the increase was not
11 included in the Company's test year revenue requirement.

12 The Company has essentially two requests related to vegetation
13 management costs. First, because the Company is already experiencing the
14 negative financial impacts of this sudden change in costs, it is requesting to defer
15 the incremental costs for vegetation management expenses above amounts being
16 recovered in base rates beginning with expenses from January 1, 2017.

17 The second request is to implement a new rider to recover deferred
18 amounts and the ongoing incremental vegetation management costs above
19 amounts being recovered in base rates. As mentioned earlier, Attachment WDW-
20 1 provides an example of the calculation of the incremental costs based on
21 projections from Company witness Hayden.

1 **Q. WHY IS THE COMPANY SEEKING A DEFERRAL FOR VEGETATION**
2 **MANAGEMENT COSTS?**

3 A. Currently, the revenue being collected for this expense is insufficient to cover the
4 costs. Furthermore, the costs are significant and have a deleterious impact on the
5 Company's financial condition. Because the costs are being driven by prices for
6 third-party contractors and the Company is required to perform the related work,
7 the costs are outside the Company's control. Finally, disallowing this deferral will
8 have a significant financial impact on the Company.

9 **Q. IS THE COMPANY REQUESTING TO TRACK ALL VEGETATION**
10 **MANAGEMENT COSTS?**

11 A. No. As I mentioned earlier, the predominant driver of the cost for vegetation
12 management is outside contractors. The Company's accounting system segregates
13 contractor costs from other costs recorded as vegetation management, such as
14 internal labor and vehicles. In order to keep the rider as simple as possible, while
15 still achieving the purpose of providing the Company with recovery of
16 incremental vegetation management costs, the rider will track only the
17 incremental costs for contractors and only those costs that are recorded in FERC
18 Account 593, Maintenance of Overhead Lines.

19 Limiting the category of expenses eligible for recovery should simplify the
20 process of review for the Staff and eliminate any controversy about what is
21 already being recovered in base rates as the invoices for contractors should be
22 easily validated.

1 **Q. IS THIS TYPE OF RIDER NEW TO THE COMMISSION?**

2 A. No. The Commission has approved a similar rider for AEP Ohio in Case No. 08-
3 918-EL-SSO. AEP Ohio's vegetation management rider has persisted ever since
4 and still remains effective.

V. **REGULATORY MANDATES RIDER**

5 **Q. DESCRIBE THE COMPANY'S PROPOSAL TO IMPLEMENT A**
6 **REGULATORY MANDATES RIDER.**

7 A. Distribution utilities, both natural gas and electric, are subject to numerous
8 regulations and must respond to regulatory requirements at the federal, state, and
9 local levels. The pace of regulatory change has accelerated significantly in recent
10 years, forcing utilities to incur sometimes significant expense without
11 commensurate or, in some cases, timely rate recovery. Utilities, regulators, and
12 consumer groups have, since the beginning of regulation, argued about the
13 "prudence" and "reasonableness" of expenses for which recovery is being sought.
14 As it happens, costs incurred to comply with legal mandates must be, *de facto*,
15 prudently incurred insofar as it would be imprudent for a utility not to comply
16 with the law.

17 In the last few years, Duke Energy Ohio has complied with a number of
18 new laws, regulations, Commission directives, and other legal mandates,
19 requiring expenditures on the part of its shareholders that have not been recovered
20 in retail rates. For example, the Commission itself has established utility
21 requirements for customer choice, customer energy usage data, privacy, and
22 metering opt-out provisions that have required or will require expenditures from

1 Duke Energy Ohio but that have not yet been recovered through either base rates
2 or riders. Heretofore, utilities have opted to request deferrals of such expenses in
3 order to allow for future recovery of such costs. However, from a regulatory and
4 fairness perspective, it would be preferable to limit the need for deferrals and to
5 better align the timing of incurring such costs with the timing for their recovery.
6 Under the current paradigm, deferral authority, if sought by the utility and granted
7 by the Commission, may shift responsibility for costs as between customers. The
8 use of deferrals, albeit a necessary tool at times, is not always an option preferred
9 by the utility or by the Commission. Establishing the proposed Rider RMR will
10 provide the Company a means of avoiding the negative financial impacts of
11 *complying with mandates and will provide the Commission a much more efficient*
12 *mechanism by which to address such issues without having to review repeated*
13 *requests for deferrals.*

14 **Q. HOW WOULD THE REVENUE REQUIREMENT FOR RIDER RMR BE**
15 **CALCULATED?**

16 A. Incremental O&M costs not already being recovered in base rates or in other
17 riders, plus a return on and of capitalized costs and associated property taxes,
18 would be projected for an upcoming year. Rider RMR would be charged to
19 customers and the revenue collected from Rider RMR will be trued up to actual
20 costs in subsequent filings. Similar to the manner in which Rider DCI is charged,
21 the charge to customers will be calculated as a percentage of each customer's base
22 distribution rate.

1 **Q. DOES THE COMPANY HAVE AN ESTIMATE OF THE COST THAT**
2 **WILL BE INCLUDED IN RIDER RMR?**

3 A. Insofar as this rider is for regulatory mandates that do not exist currently, the rider
4 is set a \$0 and will only be populated when the Company is required to comply
5 with a mandate for which the costs are not being recovered in base rates or in any
6 other rider.

VI. DISTRIBUTION CAPITAL INVESTMENT RIDER

7 **Q. PLEASE DESCRIBE THE COMPANY’S EXISTING RIDER DCI.**

8 A. In its April 2, 2015, Opinion and Order in Case No. 14-841-EL-SSO, *et al.*, the
9 Commission approved a mechanism to allow the Company to modernize its
10 distribution system and to be more “proactive” in its distribution maintenance
11 program. The Commission went on to say that it was “detrimental to the state's
12 economy to require the utility to be reactionary or allow the performance
13 standards to take a negative turn before we encourage the EDU to proactively and
14 efficiently replace and modernize infrastructure.”⁴

15 Rider DCI provides a mechanism for Duke Energy Ohio to more timely
16 recover the costs of proactively modernizing its distribution system. Rider DCI
17 allows the Company to collect the incremental revenue requirement (return,
18 depreciation, and property tax) associated with investment in distribution rate
19 base for a current period as compared to the revenue requirement (return,

⁴ *In the Matter of the Application of Duke Energy Ohio, Inc., for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan, Accounting Modifications, and Tariffs for Generation Service*, Case No. 14-841-EL-SSO, *et al.*, Opinion and Order, at pg. 71 (April 2, 2015)(hereinafter ESP III).

1 depreciation, and property taxes) on the rate base used in the most recent base
2 distribution rate case. The “most recent base distribution rate case” is Case No.
3 12-1682-EL-AIR, *et al.*

4 **Q. WILL THE COMPANY’S PENDING APPLICATION FOR NEW BASE**
5 **DISTRIBUTION RATES IMPACT RIDER DCI?**

6 A. Yes. When new rates are approved and implemented as part Case No. 17-32-EL-
7 AIR, *et al.*, Duke Energy Ohio’s base rates will be based on its investment in
8 distribution-related facilities through June 30, 2016. Because the existing
9 approved Rider DCI compares current period revenue requirements for
10 distribution capital investment to a “base” level using the March 31, 2012,
11 investment, once new rates are approved in the pending rate case, Rider DCI will
12 have to be updated to reflect a different baseline. Going forward from that point,
13 Rider DCI will be calculated by measuring the revenue requirement approved for
14 Rider DCI for future periods against what will be a new base period investment.
15 Insofar as the date certain for establishing rate base in this case is June 30, 2016,
16 Rider DCI for future periods will be based on comparing current period eligible
17 distribution-related rate base to the eligible distribution-related rate base as of
18 June 30, 2016, as opposed to March 31, 2012, as is done in the existing Rider DCI
19 calculation.

20 **Q. OTHER THAN THE CHANGE TO UPDATE THE DATE CERTAIN FOR**
21 **DETERMINING INCREMENTAL CAPITAL ADDITIONS, IS THE**
22 **COMPANY PROPOSING ANY OTHER MODIFICATIONS TO THE**
23 **RIDER DCI CALCULATION?**

1 A. Yes. Although the Commission's approval of Rider DCI was a welcome
2 innovation in Duke Energy Ohio's regulatory framework and encourages
3 proactive investment in utility infrastructure, it still does not completely recognize
4 all of the significant investment required on behalf of Duke Energy Ohio's
5 shareholders in order to deliver the safe, reliable, and efficient electric distribution
6 service, as was intended by the Commission. Encouraging the Company to be
7 proactive in investing in its grid should extend to all investments being made by
8 the Company to meet that goal including the significant investments required in
9 plant that is categorized as general, intangible, and common.

10 As described in its ESP III case and again its pending base distribution
11 rate case, a significant portion of the investment required to provide distribution
12 service is excluded from Rider DCI. Although the Company proposed to include
13 incremental rate base classified as "general," "intangible," and "common" plant,
14 directly attributable to distribution service, in Rider DCI, the Commission's
15 approval of Rider DCI explicitly excluded this component.

16 Duke Energy Ohio is requesting that the Commission modify the Rider
17 DCI calculation to include incremental investment in distribution-related general,
18 intangible, and common plant directly related to the provision of distribution
19 service.

20 **Q. WHY DOES THE COMPANY BELIEVE IT IS APPROPRIATE TO**
21 **INCLUDE DISTRIBUTION-RELATED GENERAL, INTANGIBLE, AND**
22 **COMMON PLANT IN RIDER DCI?**

1 A. The Company's investment in general, intangible, and common plant is integral to
2 the Company's ability to provide safe, reliable, and efficient electric service. For
3 example, the Company makes significant investment in communication
4 equipment. Investment in communication nodes is recorded in common and
5 electric general plant but, indisputably, such nodes are requisite to the operation
6 of the Company's electric distribution system. The FERC requirement to record
7 such investment in plant accounts other than Accounts 360 through 374 does not
8 diminish the fact that such investment is just as important to being proactive in the
9 operation and maintenance of the Company's distribution system as is investment
10 that appears in FERC Accounts 360 through 374.

11 **Q. IS THERE PRECEDENT FOR INCLUDING GENERAL AND**
12 **INTANGIBLE PLANT IN A DISTRIBUTION CAPITAL RIDER?**

13 A. Yes. The Commission has repeatedly approved distribution capital riders for
14 FirstEnergy's Ohio EDUs that include general and intangible plant. As recently as
15 March 31, 2016, the Commission re-approved FirstEnergy's Delivery Capital
16 Recovery Rider (Rider DCR).⁵ The calculation and intent of Rider DCR are
17 similar to the Company's Rider DCI with the significant differences being that (1)
18 FirstEnergy's Rider DCR is based on forecasted data as opposed to the actual data
19 used for Rider DCI, and (2) FirstEnergy's Rider DCR includes distribution-
20 related general and intangible plant. As Attachment WDW-2, I have included a

⁵ *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan*, Case No. 14-1297-EL-SSO, Opinion and Order, at pp. 65-66, 92-93, 111, 120 (March 31, 2016).

1 copy of selected pages from Ohio Edison's most recent Rider DCR update filing
2 made on April 3, 2017, in Case No. 16-1820-EL-RDR. I have only included the
3 first few pages of the filing to illustrate that FirstEnergy's Rider DCR does
4 include general and intangible plant. On page 2 of the filing, Ohio Edison's
5 February 28, 2017, Gross Plant for the Rider DCR calculation is shown in
6 Column (B), Line 2, to be \$3.383 billion. On page 4, of Schedule B-2.1 (Actual)
7 of Attachment WDW-2, the total gross plant, including general and intangible
8 plant is \$3.383 billion. Unquestionably, Ohio Edison is including, with
9 Commission approval, general and intangible plant in its Rider DCR calculation.⁶
10 It should be noted that FirstEnergy's other Ohio EDUs made similar Rider DCR
11 filings on the same date and also include general and intangible plant in the
12 calculation.⁷

13 **Q. IN YOUR OPINION, WHY SHOULD THE COMMISSION AUTHORIZE**
14 **MODIFICATIONS TO THE COMPANY'S RIDER DCI SIMILAR TO**
15 **THOSE IT HAS APPROVED FOR ANOTHER JURISDICTIONAL**
16 **UTILITY?**

17 A. The primary reason is predicated upon the desire for the consistency in regulatory
18 decisions. In the interest of ensuring consistent and equitable treatment among the
19 Ohio EDUs, the Commission should allow Duke Energy Ohio to conform its

⁶ *In the Matter of the Application of Ohio Edison Company to Update Rider DCR*, Case No. 16-1820-EL-RDR, Rider DCR Update Filing (December 30, 2016).

⁷ *In the Matter of the Application of The Cleveland Electric Illuminating Company to Update Rider DCR*, Case No. 16-1819-EL-RDR, Rider DCR Update Filing (December 30, 2016), and *In the Matter of the Application of The Toledo Edison Company to Update Rider DCR*, Case No. 16-1821-EL-RDR, Rider DCR Update Filing (December 30, 2016).

1 distribution investment rider to the Rider DCR approved for FirstEnergy, such
2 that Rider DCI would include general and intangible plant (and electric
3 distribution-related common plant). As part of its Mission Statement, the
4 Commission states that one way its mission is accomplished is by “enforcing a
5 fair competitive framework for all utilities.”⁸ As it relates to recovery of
6 incremental revenue requirements for distribution service, the goal of “fairness”
7 suggests that the Commission should approve Duke Energy Ohio’s request to
8 modify its Rider DCI so that it is not in an unfair competitive position with other
9 EDUs.

10 **Q. IS DUKE ENERGY OHIO SEEKING TO MIRROR FIRSTENERGY’S**
11 **RIDER DCR CALCULATION?**

12 A. Duke Energy Ohio is not seeking to use forecasted data as is used in FirstEnergy’s
13 calculation; however, the Company is asking the Commission to make Duke
14 Energy Ohio’s Rider DCI consistent with FirstEnergy’s Rider DCR as it relates to
15 allowing the inclusion of distribution-related rate base accounted for in other plant
16 accounts such as general and intangible plant, and, as a combination Company,
17 also electric distribution-related common plant.

18 The issue of including electric distribution-related common plant was not
19 raised in other EDUs’ ESPs inasmuch as no other Ohio EDU has investment in
20 common plant.⁹ However, that does not diminish the fact that a significant portion

⁸ See PUCO Mission Statement at <https://www.puco.ohio.gov/puco/index.cfm/how-the-puco-works-for-you/mission-and-commitments/> (emphasis added).

⁹ As reported on page 201 of the 2016 FERC Form 1 for each Ohio EDU.

1 of the investment in common plant is used exclusively for the benefit of Duke
2 Energy Ohio's electric distribution service.

3 **Q. IS THERE ANY OVERLAP BETWEEN THE PROPOSED RIDER DCI**
4 **AND THE PROPOSED POWERFORWARD RIDER?**

5 A. No. As mentioned earlier, assuming the Commission approves the Company's
6 proposal to expand Rider DCI to include electric distribution-related general,
7 intangible, and common plant, the PowerForward Rider would only be used to
8 recover incremental O&M. If the Commission rejects the request to expand its
9 Rider DCI to make it more consistent with the Rider DCR it approved for
10 FirstEnergy, then the PowerForward Rider will include certain capital-related
11 costs for selected programs designed to modernize the electric distribution grid
12 and innovate the consumer experience.

13 **Q. DO YOU HAVE AN ILLUSTRATION OF HOW THE RIDER DCI WILL**
14 **BE CALCULATED UNDER THE COMPANY'S PROPOSAL?**

15 A. Rider DCI will be calculated virtually the same as it is done in the current form
16 approved in ESP III except to include distribution-related general, intangible, and
17 common plant. Attachment WDW-3 is based on the Company's current template
18 for filing Rider DCI but includes rate base for electric distribution plant and
19 electric distribution-related plant recorded as general, intangible, and common.
20 At some point, the base distribution rates will be updated, which will require that
21 the basis for comparison for base rates in Rider DCI will have to be updated but,
22 in all other respects, the calculation of Rider DCI will mirror the current format.

1 Because the current Rider DCI will be in effect in May 2018, the schedule starts
2 with data before the effective date of ESP IV.

3 **Q. IS THE COMPANY PROPOSING ANY CHANGES TO THE**
4 **COMMISSION'S REVIEW PROCESS FOR RIDER DCI?**

5 A. The Company proposes to continue to make quarterly filings in the same manner
6 it does currently. The first quarterly filing following Commission approval of new
7 base rates will reflect the updated rate base to June 30, 2016, as I described
8 earlier. Each Rider DCI filing will include support to update the rates for the
9 upcoming quarter based on actual rate base for the most recent quarter. The
10 Company expects that the Commission will continue annually reviewing the
11 Company's DCI filing to confirm the rate base subject to the rider. Any review of
12 the reasonableness of expenditures will, as is customary in utility reviews, be
13 based on the facts and circumstances known to the Company at the time the
14 decision was made to make the relevant investments.

15 **Q. HOW DO YOU RECOMMEND COSTS FOR AN AUDIT OF RIDER DCI**
16 **BE ADDRESSED?**

17 A. The Company recommends that the costs of audit of Rider DCI be recovered
18 through that rider. Allowing Duke Energy Ohio to recover the audit costs is not
19 only reasonable and fair but it is another example of aligning the regulatory
20 treatment afforded to Duke Energy Ohio with other EDUs, namely FirstEnergy,
21 which is allowed to recover audit fees in its Rider DCR. The Commission has
22 allowed recovery of audit fees in other cases as well, such as Duke Energy Ohio's

1 Alternative Energy Recovery Rider (Rider AER-R) and its expired Fuel and
2 Purchased Power Rider (Rider FPP).

VII. INCENTIVE RATEMAKING MECHANISM

3 **Q. DESCRIBE IN FURTHER DETAIL THE COMPANY'S PROPOSAL FOR**
4 **AN INCENTIVE RATEMAKING MECHANISM.**

5 A. Weighing the potential implications of certain EDUs potentially being unable to
6 attract the necessary capital to ensure the safe and reliability delivery of
7 electricity, the Commission has approved a mechanism for FirstEnergy, in Case
8 No. 14-1297-EL-SSO, that could infuse more than \$1 billion in revenue over a
9 five-year period. The Commission is also considering a stipulation signed by the
10 Staff, in Case No. 16-395-EL-SSO, that could provide The Dayton Power & Light
11 Company (DP&L) as much as \$500 million over a five-year term. It is thus
12 apparent that the Commission recognizes the potential for these EDUs being
13 unable to attract capital and the significant implications that may have on the
14 ability to deliver safe and reliable electric service to customers.

15 Duke Energy Ohio proposes in this case an incentive ratemaking
16 mechanism tied to its annual SEET review that will serve to address financial
17 concerns before they become critical. As part of its annual SEET review, the
18 Company proposes to compare its actual ROE to a band of ROE. If the actual
19 ROE under the SEET review exceeds that band, the Company will automatically
20 refund dollars to customers and, if the actual ROE falls below the lower part of
21 the band, the Company will automatically recover the difference in the form of a
22 rider, the Incentive Ratemaking Mechanism Rider (Rider IRM).

1 **Q. HOW DOES THE COMPANY PROPOSE TO DEFINE THE ROE BAND?**

2 A. The Company proposes to establish the band at 200 basis points above or below
3 the then currently allowed ROE from its most recently approved distribution case.
4 This proposal is fair in that it is symmetrical and does not favor the utility or the
5 customer.

6 **Q. WHAT HAPPENS IF THE APPROVED ROE CHANGES IN THE**
7 **MIDDLE OF THE YEAR?**

8 A. In that case and for that year, the target ROE would be the weighted-average of
9 the original and modified ROEs, weighted by the number of days in the year each
10 was in effect.

11 **Q. WOULD ANY ACTUAL REFUNDS OR CHARGES RESULTING FROM**
12 **RIDER IRM BE INCLUDED IN SEET TESTS?**

13 A. No. Any refunds or charges actually flowing to or from customers via this rider
14 would be related to a prior year and, consequently, would be excluded from the
15 current year SEET review.

16 **Q. HOW DOES THE COMPANY PROPOSE TO IMPOSE ANY REFUNDS**
17 **OR CHARGES?**

18 A. As mentioned above, Rider IRM would be the mechanism to flow through any
19 charges or credits. The amount would simply be the amount of revenue needed to
20 be flowed through or collected to bring the ROE back into the band. Similar to
21 other riders, any refunds or charges would be allocated and charged to customers
22 so that it is reflected on customers' bills as a percentage of base distribution
23 charges.

1 **Q. ARE THERE ANY OTHER BENEFITS OF THE PROPOSAL THAT**
2 **NEED TO BE ADDRESSED?**

3 A. The significant benefits of this proposal are that it is simple, based on a
4 calculation that has not been controverted, objective, and fair to both the
5 Company and customers. This mechanism also fulfills the provisions of R.C.
6 4928.143(F) in an efficient manner. Indeed, it eliminates the burdensome exercise
7 of calculating the Company's earnings pursuant to a detailed formula and
8 positions the Commission to promptly resolve the annual SEET review. In this
9 regard, it is noteworthy that the Company's proposal would enable timely refunds
10 to customers without the need for time-consuming regulatory filings.
11 Additionally, it is indisputable that setting the excess earnings bar at only 200
12 basis points above the approved ROE is well below any reasonable definition of
13 "significantly excessive." And, importantly, it is fair in that the band protects
14 customers by refunding high returns and protects the Company's ability to attract
15 capital by infusing cash when returns are unreasonably low.

16 In addition to simplicity and objectivity this mechanism provides, it has
17 the potential to serve another important purpose. There is an admitted recognition
18 of the need to protect the financial integrity of Ohio's EDUs, as evident from the
19 FirstEnergy and DP&L ESP cases I mentioned earlier.

20 **Q. HOW DOES THE COMPANY'S PROPOSAL FOR THE INCENTIVE**
21 **RATEMAKING MECHANISM ADDRESS THE PROVISIONS OF R.C.**
22 **4928.143(E) REGARDING AN ESP THAT EXCEEDS THREE YEARS?**

1 A. Because the Incentive Ratemaking Mechanism includes a formula that
2 automatically provides for refunds over a threshold, this proposal is ideally suited
3 to address the SEET reviews in ESPs lasting longer than three years. As this
4 mechanism essentially prevents the Company from having “significantly
5 excessive earnings,” a subsequent test of the ESP IV in its fourth year could be
6 simply conducted.

VIII. PRICE STABILIZATION RIDER

7 **Q. DESCRIBE THE COMPANY’S REQUEST, IN THESE PROCEEDINGS,**
8 **WITH RESPECT TO THE PRICE STABILIZATION RIDER.**

9 A. As I previously stated, in its Opinion and Order establishing the Company’s third
10 ESP, the Commission approved Rider PSR through May 31, 2018, but set the rate
11 at \$0. It did, however, instruct the Company to pursue adjustment of the rider in
12 a subsequent, separate proceeding.¹⁰

13 On March 31, 2017, adhering to this instruction, Duke Energy Ohio filed
14 an application to modify Rider PSR to begin including gains/losses related to its
15 contractual entitlement in The Ohio Valley Electric Corporation (OVEC) and to
16 defer such costs effective April 1, 2017.¹¹ The Company further requested to
17 extend the mechanism under Rider PSR to align with the term of the inter-
18 company power agreement (ICPA) to which it is a counterparty. Notwithstanding
19 the pending Rider PSR proceeding, Duke Energy Ohio also requests Commission

¹⁰ ESP III, Opinion and Order, at pg. 47 (April 2, 2015)(requiring Duke Energy Ohio to seek adjustment of Rider PSR in a future filing).

¹¹ *In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Modify Rider PSR*, Case No. 17-872-EL-RDR, *et al.*, Application (March 31, 2017).

1 authority here to extend the rider approved in ESP III beyond its existing
2 termination date.

3 **Q. WHY IS THE COMPANY SEEKING TO EXTEND RIDER PSR'S TERM**
4 **IN THESE PROCEEDINGS?**

5 A. The Commission's ESP III order undeniably envisioned that the Company's
6 request to adjust its existing Rider PSR occur in a proceeding, initiated during the
7 term of the current ESP, other than a proceeding under R.C. 4928.141, *et seq.*,
8 Indeed, had the Commission intended otherwise, it would not have affixed a
9 termination date of May 31, 2018. Stated another way, the separate proceeding
10 that the Commission required could not have been a later proceeding to establish
11 Duke Energy Ohio's fourth SSO. As I have been advised by counsel, authority to
12 adjust and extend Rider PSR beyond May 31, 2018, is properly before the
13 Commission in a separate proceeding.¹² However, to eliminate a protracted debate
14 of the issue, Duke Energy Ohio is requesting herein authority to continue Rider
15 PSR beyond May 31, 2018. Not intending to litigate the same issue in multiple
16 proceedings, it is noteworthy that the two other Ohio electric distribution
17 companies that are also counterparties to the ICPA currently have, or are awaiting
18 approval of a settlement providing for, cost recovery related to their contractual
19 entitlement in the OVEC-owned assets for periods beyond May 31, 2018.
20 Consistency and equity in the regulatory process support the Company's request

¹² See also, *In the Matter of the Application of Dayton Power and Light for Approval of its Electric Security Plan*, Case No. 16-395-EL-SSO, *et al.*, Tr. Vol. V., at pp. 888-889 (Staff witness testimony confirming that adjustable riders may be authorized where an electric distribution company is providing an SSO even in the form of a market rate offer).

1 herein to extend its existing Rider PSR, as well as the Company's pending,
2 separate request to adjust the rider.

IX. BETTER-IN-THE-AGGREGATE TEST

3 **Q. IS THE COMPANY'S PROPOSED ESP MORE FAVORABLE, IN THE**
4 **AGGREGATE, THAN THE EXPECTED RESULTS THAT WOULD**
5 **OTHERWISE APPLY UNDER SECTION 4928.142 OF THE REVISED**
6 **CODE?**

7 A. Yes. In the aggregate, the Company's proposed ESP is more favorable than the
8 expected results of an MRO under R.C. 4928.142. Because all of the capacity and
9 energy procured for SSO service is competitively procured under the ESP, as it
10 would be under an MRO, the cost of generation service to customers under the
11 proposed ESP is necessarily equal to the cost of generation service under an
12 MRO. Notwithstanding the quantitative indifference between an ESP and an
13 MRO, Duke Energy Ohio believes that the totality of the provisions of its ESP IV
14 proposal provides benefits to customers and all stakeholders as compared to the
15 expected results under the MRO provision, thus, complying with R.C.
16 4928.143(C)(1).

17 **Q. WILL YOU EXPLAIN HOW THE COST OF SSO SERVICE UNDER THE**
18 **PROPOSED ESP IS EQUAL TO THE COST THAT WOULD BE**
19 **EXPECTED UNDER AN MRO?**

20 A. In the proposed ESP, there are no competitive generation-related charges being
21 sought by the Company other than the flow-through of the cost of procuring SSO
22 generation service via the CBP plan. As I described above, the alternative of

1 introducing generation procured under the ICPA to serve only SSO customers
2 jeopardizes that equality. Therefore, the only driver of SSO costs under the Duke
3 Energy Ohio's proposed ESP IV is competitively priced, market-based generation
4 service. Under an MRO, the source and the price of SSO generation service must
5 be the same, as 100 percent of the SSO load requirement would have to be
6 procured in a competitive process just as is being done in the existing and
7 proposed ESP. Inasmuch as the SSO service to be procured in both an ESP and an
8 MRO would be pursuant to purely competitive process, the quantitative value of
9 the ESP versus the MRO, as it relates to competitive generation service, is
10 necessarily equal.

11 **Q. IS THERE A QUANTITATIVE DIFFERENCE BETWEEN THE ESP AND**
12 **THE MRO DUE TO THE OTHER RIDERS BEING SOUGHT IN THIS**
13 **ESP APPLICATION?**

14 A. No. The Staff has been very clear in testimony¹³ and in briefs that an EDU could
15 implement the same riders whether it was operating under an MRO or an ESP.
16 Staff made that point very clear in its Initial Post-Hearing Brief filed in Case No.
17 16-395-EL-SSO:

18 When considering what the effect of an MRO might be it is
19 important to recognize that the MRO would not happen in a
20 vacuum. Regardless of how the energy is provisioned for the
21 standard service offer (whether through an MRO or an ESP) the
22 needs that drive the creation of the various riders that appear in the
23 amended stipulation would remain the same. There would still be
24 storm damage that would need to be repaired. Economic
25 development would still be needed. Energy efficiency would still
26 need support and on and on. While these riders might be created in

¹³ Id.

1 an MRO directly or through some other means, they would still be
2 created. The needs they address simply are not dependent upon
3 how the energy in the lines is purchased. They would exist in
4 either scenario and are, therefore, a wash and need not be
5 considered in the ESP v. MRO analysis. They do not make a
6 difference.¹⁴

7 The Company shares Staff's opinion and believes the riders being proposed in
8 Duke Energy Ohio's ESP IV also are a "wash" when comparing the ESP to an
9 MRO, quantitatively.

10 **Q. IF THE COST OF SSO GENERATION SERVICE UNDER THE**
11 **PROPOSED ESP IS THE SAME AS COSTS THAT WOULD BE**
12 **EXPECTED UNDER AN MRO, WHAT IS THE BASIS FOR**
13 **CONCLUDING THAT THE PROPOSED ESP IS MORE FAVORABLE**
14 **THAN AN MRO?**

15 A. On the advice of counsel, it is my understanding that the Ohio Supreme Court has
16 confirmed that the "better-in-the-aggregate test" is not limited to a price
17 comparison. Rather, the Commission has been instructed to also consider other
18 terms and conditions of a proposed ESP.¹⁵ The Commission has similarly
19 affirmed the scope of the "better-in-the-aggregate test" in recent orders.
20 Specifically, in DP&L's second SSO filing (DP&L ESP II Case),¹⁶ the
21 Commission defined the test as one that "includes a quantitative and a qualitative
22 analysis."¹⁷ On advice of counsel, the implication of the Commission's finding in

¹⁴ *Id.*, Post-Hearing Brief Submitted on Behalf of the Staff of the Public Utilities Commission of Ohio, at pg. 11 (May 5, 2017).

¹⁵ *In re Columbus Southern Power Co.*, 128 Ohio St.3d 402, 2011-Ohio-958, at ¶ 407.

¹⁶ *In the Matter of the Application of The Dayton Power and Light Company for Approval of its Electric Security Plan*, Case No. 12-426-EL-SSO, *et al.*

¹⁷ *Id.*, Opinion and Order, at pg. 48 (September 4, 2013).

1 the DP&L ESP II Case is that the qualitative benefits of an ESP can render that
2 form of an SSO better than the expected results under R.C. 4928.142, where the
3 quantitative factors are comparable or even favor the MRO.

4 In the Company's proposed ESP IV, the Commission's determination as
5 to whether this ESP is "better in the aggregate" than the results expected under the
6 MRO provision will therefore depend on the qualitative benefits of the proposed
7 ESP. Insofar as the proposed ESP and the MRO are necessarily equal
8 quantitatively, the scale can only be tipped one way or the other based on the
9 qualitative benefits of the proposed ESP relative to the MRO. The Company
10 believes that its proposed ESP provides significant advantages over the results
11 that could be expected under an MRO. Some of the most conspicuous benefits of
12 the proposed ESP include:

- 13 • "The ESP filing as opposed to an MRO filing provides a
14 mechanism where the Company's tariffs can be further refined
15 to be more reflective of the current competitive
16 environment."¹⁸
- 17 • "[A]n ESP allows for flexible rate making, providing a process
18 for utilities to propose riders that may provide a more efficient
19 method of cost recovery."¹⁹
- 20 • Proposals designed to improve reliability and to modernize the
21 grid; and
- 22 • An incentive mechanism designed to reward customers when
23 the Company's earnings exceed a threshold and to ensure that
24 the Company maintains its ability to attract capital.

¹⁸ ESP III, Direct Testimony of Tamara S. Turkenton, at pg. 4 (October 2, 2014).

¹⁹ Id.

X. COMPETITIVENESS OF ESP IV

1 **Q. DOES THE COMPANY'S PROPOSED ESP IV IMPROVE THE**
2 **COMPANY'S COMPETITIVENESS IN THE STATE OF OHIO?**

3 A. Yes. For several years, Duke Energy Ohio has had among the lowest rates in the
4 state, as evidenced by the monthly Ohio Utility Rate Survey published in the
5 Statistical Reports section of the Commission's website.²⁰ Assuming the
6 Commission approves the Company's ESP IV without any modification, Duke
7 Energy Ohio's status is not expected to change inasmuch as all of the other EDUs
8 have pending or approved new charges that will serve to increase their rates for
9 the next several years. So, it is reasonable to say that, at least as far as retail rates
10 are concerned, Duke Energy Ohio's electric rates will be competitive with the
11 other EDUs for at least the duration ESP IV.

12 Another aspect of competition, however, is comparing the regulatory
13 models of the four major EDUs in the state. Assuming the Commission approves
14 the stipulation pending in DP&L's ESP case, Duke Energy Ohio is disadvantaged
15 compared to its peers. All of the proposals being made by Duke Energy Ohio in
16 this ESP have already been approved, in some form, by the Commission for at
17 least one other EDU in the state. Duke Energy Ohio's proposal for the Incentive
18 Ratemaking Mechanism is new in form but it is designed to accomplish the same
19 goal as mechanisms approved in other cases. Arguably, this proposal is an
20 improvement over the financial relief riders provided to FirstEnergy and pending

²⁰ See <https://www.puco.ohio.gov/industry-information/statistical-reports/ohio-utility-rate-survey/>

1 for DP&L inasmuch as there is an asymmetrical opportunity for customers to
2 benefit.

3 **Q. HOW DOES THE COMPANY ENSURE THAT ITS RETAIL SERVICE IS**
4 **FULLY COMPETITIVE?**

5 A. The simple answer is to minimize incentives to migrate between SSO service and
6 CRES service. Neither the regulator nor the Company should encourage
7 customers to switch away from one fully competitive service to another. Because
8 Duke Energy Ohio's SSO has been and is proposed to continue being fully
9 competitive, CRES providers should not be advantaged compared to SSO
10 suppliers and SSO suppliers should not be advantaged over CRES providers.

11 **Q. ARE THERE ANY OTHER MAJOR RATE-RELATED PROVISIONS OF**
12 **THE CURRENT ESP THAT ARE BEING ELIMINATED IN THE**
13 **PROPOSED ESP?**

14 A. Duke Energy Ohio is proposing to end the program to provide above-market
15 incentives to select commercial and industrial customers. The Company recovers
16 any above-market costs via its Economic Competitiveness Fund Rider (Rider
17 ECF). As ending the large customer interruptible program eliminates the need for
18 Rider ECF, the Company is proposing to eliminate this rider.

XI. GOVERNMENTAL AGGREGATION

19 **Q. WHAT IS GOVERNMENTAL AGGREGATION?**

20 A. Governmental aggregation is a process by which municipalities, townships, or
21 counties may negotiate rates for the collective load of the non-mercantile
22 customers in the area. Thus, the loads of the residents are aggregated for

1 improved negotiating leverage. Governmental aggregation is provided for in R.C.
2 4928.20.

3 **Q. WHAT IS REQUIRED BY DIVISION (I) OF REVISED CODE 4928.20?**

4 A. Division (I) of that statute reads as follows:

5 Customers that are part of a governmental aggregation under this
6 section shall be responsible only for such portion of a surcharge
7 under section 4928.144 of the Revised Code that is proportionate
8 to the benefits, as determined by the commission, that electric load
9 centers within the jurisdiction of the governmental aggregation as a
10 group receive. The proportionate surcharge so established shall
11 apply to each customer of the governmental aggregation while the
12 customer is part of that aggregation. If a customer ceases being
13 such a customer, the otherwise applicable surcharge shall apply.
14 Nothing in this section shall result in less than full recovery by an
15 electric distribution utility of any surcharge authorized under
16 section 4928.144 of the Revised Code.

17 R.C. 4928.144, referenced in division (I), provides that:

18 The public utilities commission by order may authorize any just
19 and reasonable phase-in of any electric distribution utility rate or
20 price established under sections 4928.141 to 4928.143 of the
21 Revised Code, and inclusive of carrying charges, as the
22 commission considers necessary to ensure rate or price stability for
23 consumers. If the commission's order includes such a phase-in, the
24 order also shall provide for the creation of regulatory assets
25 pursuant to generally accepted accounting principles, by
26 authorizing the deferral of incurred costs equal to the amount not
27 collected, plus carrying charges on that amount. Further, the order
28 shall authorize the collection of those deferrals through a
29 nonbypassable surcharge on any such rate or price so established
30 for the electric distribution utility by the commission.

31 **Q. WHAT IS REQUIRED BY DIVISION (J) OF REVISED CODE 4928.20?**

32 A. Division (J) of that statute states that:

33 On behalf of the customers that are part of a governmental
34 aggregation under this section and by filing written notice with the
35 public utilities commission, the legislative authority that formed or
36 is forming that governmental aggregation may elect not to receive
37 standby service within the meaning of division (B)(2)(d) of section

1 4928.143 of the Revised Code from an electric distribution utility
2 in whose certified territory the governmental aggregation is located
3 and that operates under an approved electric security plan under
4 that section. Upon the filing of that notice, the electric distribution
5 utility shall not charge any such customer to whom competitive
6 retail electric generation service is provided by another supplier
7 under the governmental aggregation for the standby service. Any
8 such consumer that returns to the utility for competitive retail
9 electric service shall pay the market price of power incurred by the
10 utility to serve that consumer plus any amount attributable to the
11 utility's cost of compliance with the alternative energy resource
12 provisions of section 4928.64 of the Revised Code to serve the
13 consumer. Such market price shall include, but not be limited to,
14 capacity and energy charges; all charges associated with the
15 provision of that power supply through the regional transmission
16 organization, including, but not limited to, transmission, ancillary
17 services, congestion, and settlement and administrative charges;
18 and all other costs incurred by the utility that are associated with
19 the procurement, provision, and administration of that power
20 supply, as such costs may be approved by the commission. The
21 period of time during which the market price and alternative
22 energy resource amount shall be so assessed on the consumer shall
23 be from the time the consumer so returns to the electric distribution
24 utility until the expiration of the electric security plan. However, if
25 that period of time is expected to be more than two years, the
26 commission may reduce the time period to a period of not less than
27 two years.

28 With introductory text taken from division (B)(2), R.C.
29 4928.143(B)(2)(d), referenced in that section, provides as follows:

30 The plan may provide for or include, without limitation, any of the
31 following:

32 (d) Terms, conditions, or charges relating to limitations on
33 customer shopping for retail electric generation service,
34 bypassability, standby, back-up, or supplemental power service,
35 default service, carrying costs, amortization periods, and
36 accounting or deferrals, including future recovery of such
37 deferrals, as would have the effect of stabilizing or providing
38 certainty regarding retail electric service;

39 R.C. 4928.64, referenced in division (J), addresses the provision, by an
40 electric distribution utility, of electricity from alternative energy resources.

1 **Q. WHAT IS REQUIRED BY DIVISION (K) OF REVISED CODE 4928.20?**

2 A. Division (K) reads as follows:

3 The commission shall adopt rules to encourage and promote large-
4 scale governmental aggregation in this state. For that purpose, the
5 commission shall conduct an immediate review of any rules it has
6 adopted for the purpose of this section that are in effect on the
7 effective date of the amendment of this section by S.B. 221 of the
8 127th general assembly, July 31, 2008. Further, within the context
9 of an electric security plan under section 4928.143 of the Revised
10 Code, the commission shall consider the effect on large-scale
11 governmental aggregation of any nonbypassable generation
12 charges, however collected, that would be established under that
13 plan, except any nonbypassable generation charges that relate to
14 any cost incurred by the electric distribution utility, the deferral of
15 which has been authorized by the commission prior to the effective
16 date of the amendment of this section by S. B. 221 of the 127th
17 general assembly, July 31, 2008.

18 **Q. HOW DOES DUKE ENERGY OHIO INTEND TO ADDRESS**
19 **GOVERNMENTAL AGGREGATION PROGRAMS AND THE**
20 **IMPLEMENTATION OF DIVISION (I) OF REVISED CODE 4928.20?**

21 A. As I understand, based upon advice of counsel, Duke Energy Ohio is not, in this
22 Application, seeking any deferral or to phase in any deferrals, as authorized under
23 R.C. 4928.144. Thus, the provisions of R.C. 4928.20(I) are not applicable to the
24 Company's proposed ESP. And to the extent R.C. 4928.20(I) is intended to assist
25 governmental aggregators, the Company's proposed ESP will not impede that
26 intent.

27 **Q. HOW DOES DUKE ENERGY OHIO INTEND TO ADDRESS**
28 **GOVERNMENTAL AGGREGATION PROGRAMS AND**
29 **IMPLEMENTATION OF DIVISION (J) OF REVISED CODE 4928.20?**

1 A. As I understand, based upon advice of counsel, the provisions of R.C. 4928.20(J)
2 that concern a charge for standby service are also not applicable to the Company's
3 ESP Application. Duke Energy Ohio is not proposing any charge for providing
4 standby service. Accordingly, the implementation of R.C. 4928.20(J) is not
5 complicated by the Company's proposed ESP.

6 **Q. HOW DOES DUKE ENERGY OHIO INTEND TO ADDRESS**
7 **GOVERNMENTAL AGGREGATION PROGRAMS AND**
8 **IMPLEMENTATION OF DIVISION (K) OF REVISED CODE 4928.20?**

9 A. As I understand, based upon advice of counsel, R.C. 4928.20(K) provides
10 instruction to the Commission in promulgating rules to "encourage and promote
11 large-scale governmental aggregation" in Ohio. As this instruction is directed to
12 the Commission, Duke Energy Ohio's proposed ESP is necessarily irrelevant to
13 implementation of certain parts of R.C. 4928.20(K). That is, the Company's filing
14 will not result in rules designed to encourage or promote aggregations.

15 R.C. 4928.28(K) also directs the Commission to consider the effect of any
16 non-bypassable generation charge on large-scale aggregation, with the exception
17 of non-bypassable charges for which a deferral was created prior to the effective
18 date of SB 221. First of all, compliance with this statutory provision requires
19 conduct by the Commission but, importantly, there are no non-bypassable
20 generation charges being proposed in the proposed ESP. Consequently, this
21 requirement is moot insofar as Duke Energy Ohio's Application is concerned.

XII. CONCLUSION

1 **Q. IN YOUR OPINION, SHOULD THE COMMISSION APPROVE THE**
2 **COMPANY'S ESP IV PROPOSAL?**

3 A. Yes. Duke Energy Ohio's ESP IV is better in the aggregate than an MRO;
4 advances state policy goals; maintains a robust competitive environment; it
5 implements modern regulatory principles; advances the goals expressed by the
6 Commission in its PowerForward Initiative; and aligns the regulatory treatment
7 for Duke Energy Ohio with the regulatory treatment afforded to the other Ohio
8 EDUs, thereby reducing the potential for competitive advantages and
9 disadvantages among these EDUs.

10 **Q. DID YOU PREPARE THE ATTACHMENTS TO YOUR TESTMONY OR**
11 **WAS IT DONE UNDER YOUR SUPERVISION?**

12 A. Yes.

13 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

14 A. Yes.

Duke Energy Ohio
Rider ESRR Calculation

Line	Description	Base Case	2018 Partial ^(a)	2019	2020	2021	2022	2023	2024 Partial ^(a)
Vegetation Management Expenses for Rider ESRR ^(b)									
1	Contractor Costs Recovered in Base Rates ^(c)	\$10,720,877	\$6,253,845	\$10,720,877	\$10,720,877	\$10,720,877	\$10,720,877	\$10,720,877	\$4,467,032
2	Projected Contractor Costs ^(d)		15,633,333	22,300,000	23,000,000	21,700,000	22,400,000	23,100,000	9,916,667
3	Incremental Vegetation Management Costs for ESRR		\$9,379,488	\$11,579,123	\$12,279,123	\$10,979,123	\$11,679,123	\$12,379,123	\$5,449,635
4	Commercial Activities Tax (rate)		0.26%	0.26%	0.26%	0.26%	0.26%	0.26%	0.26%
5	Commercial Activities Tax (amount)		24,450	30,184	32,009	28,620	30,445	32,270	14,206
6	Revenue To Be Collected Under ESRR		\$9,403,938	\$11,609,307	\$12,311,132	\$11,007,743	\$11,709,568	\$12,411,393	\$5,463,841
7	Annual Base Distribution Revenue ^(e)	\$484,859,699	\$282,834,824	\$484,859,699	\$484,859,699	\$484,859,699	\$484,859,699	\$484,859,699	\$202,024,875
8	Rider ESRR Rate (Percent of Base Distr Revenue)		3.32%	2.39%	2.54%	2.27%	2.42%	2.56%	2.70%

Notes: ^(a) For 2018, includes 7/12 of annual amount. For 2024, includes 5/12 of annual amount.

^(b) Costs being tracked for Rider ESRR are limited to Contractor Costs, Resource Code 69100.

^(c) O&M Expense classified as vegetation management recorded in Account 593 included in the test year for Case No. 17-32-EL-AIR.

^(d) See testimony of Karen M. Hayden.

^(e) Projected base distribution revenue requirement per Schedule E-4, page 1, from the Application, as filed, in Case No. 17-32-EL-AIR.



76 South Main St
Akron, Ohio 44308

April 3, 2017

Ms. Barcy McNeal
Commission Secretary
The Public Utilities Commission of Ohio
180 East Broad Street
Columbus, OH 43215

SUBJECT: Case Nos. 16-1820-EL-RDR
89-6006-EL-TRF

Dear Ms. McNeal:

In accordance with the Commission Order in Ohio Edison Company's Case No. 14-1297-EL-SSO Electric Security Plan proceeding, please file the attached schedules, bill impacts, and tariff pages on behalf of Ohio Edison Company related to the Delivery Capital Recovery Rider (Rider DCR). The attached schedules demonstrate that the year-to-date revenue is below the permitted annual cap for 2017 and provide detailed calculations related to plant in service, accumulated depreciation reserve, income taxes, commercial activity taxes, and property taxes, rate base, depreciation expense, and the resulting revenue requirement all as contemplated by the Order in Ohio Edison Company's Case No. 14-1297-EL-SSO Electric Security Plan proceeding.

Also included with the filing are estimated bill impacts for multiple usage levels for the different rate schedules reflecting the impact on current bills of the Rider DCR charges commencing on June 1, 2017.

Finally, attached is a tariff page that reflects the pricing update of Rider DCR. Please file one copy of the tariffs in each of the above mentioned Case Nos. 16-1820-EL-RDR and 89-6006-EL-TRF, and distribute two copies to the Staff. Thank you.

Sincerely,

A handwritten signature in black ink that reads "Santino L. Fanelli". The signature is written in a cursive, flowing style.

Santino L. Fanelli
Director, Rates & Regulatory Affairs

Enclosures

Ohio Edison Company
 Delivery Capital Recovery Rider (DCR)
 June 2017 – August 2017 Filing
 April 3, 2017

Page Name	Page
June 2017 – August 2017 Revenue Requirements Summary	1
Actual 2/28/2017 Rate Base and Revenue Requirements	
DCR Revenue Requirement Calculation	2
Plant In Service	3
Reserve for Accumulated Depreciation	7
ADIT Balances	11
Depreciation Calculations	12
Property Tax Calculations	16
Summary of Exclusions	19
Service Company Allocation Summary	20
Service Company Depreciation	21
Service Company Property Tax	23
Incremental Service Company Depreciation and Property Tax Expense	25
Intangible Depreciation Expense	26
Estimated 5/31/2017 Rate Base and Revenue Requirements	
DCR Revenue Requirement Calculation	27
Plant In Service	28
Reserve for Accumulated Depreciation	32
ADIT Balances	36
Depreciation Calculations	37
Property Tax Calculations	41
Summary of Exclusions	44
Service Company Allocation Summary	45
Service Company Depreciation	46
Service Company Property Tax	48
Incremental Service Company Depreciation and Property Tax Expense	50
Intangible Depreciation Expense	51
June 2017 – August 2017 Rider DCR - Rate Design	52
June 2017 – August 2017 Rider DCR - Reconciliation from March 2017 – May 2017	58
June 2017 – August 2017 Rider DCR Billing Units Used for Rate Design	61
June 2017 – August 2017 Rider DCR Typical Bill Comparisons	62
June 2017 – August 2017 Rider DCR Tariff	68

Rider DCR
Rates for June - August 2017
Revenue Requirement Summary
(\$ millions)

Calculation of Annual Revenue Requirement Based on Estimated 5/31/2017 Rate Base

Line No.	Description	Source	CEI	OE	TE	TOTAL
1	Annual Revenue Requirement Based on Actual 2/28/2017 Rate Base	4/3/2017 Compliance Filing: Page 2; Column (f) Lines 36-39	\$ 114.5	\$ 116.3	\$ 26.9	\$ 260.7
2	Incremental Revenue Requirement Based on Estimated 5/31/2017 Rate Base	Calculation: 4/3/2017 Compliance Filing (Page 27, Column (f) Lines 36-39) minus Line 1	\$ 1.6	\$ 3.5	\$ 1.1	\$ 6.1
3	Annual Revenue Requirement Based on Estimated 5/31/2017 Rate Base	Calculation: SUM [Line 1 through Line 2]	\$ 116.1	\$ 119.7	\$ 30.9	\$ 266.7

The Cleveland Electric Illuminating Company: 16-1819-EL-RDR
 Ohio Edison Company: 16-1820-EL-RDR
 The Toledo Edison Company: 16-1821-EL-RDR

Rider DCR
Actual Distribution Rate Base Additions as of 2/28/2017
Revenue Requirement Calculation

(\$ millions)

* 5/31/2007 balances refer to the jurisdictional balances approved in Case 07-551-EL-AIR. Source: PUCO Staff workpapers supporting the PUCO Opinion & Order

	(A)	(B)	(C) = (B) - (A)	(D)	
Gross Plant	5/31/2007*	2/28/2017	Incremental	Source of Column (B)	
(1) CEI	1,927.1	2,996.5	1,069.4	Sch B2.1 (Actual) Line 45	
(2) OE	2,074.0	3,382.8	1,308.8	Sch B2.1 (Actual) Line 47	
(3) TE	771.5	1,169.6	398.1	Sch B2.1 (Actual) Line 44	
(4) Total	4,772.5	7,548.8	2,776.3	Sum: (1) through (3)	
Accumulated Reserve					
(5) CEI	(773.0)	(1,282.8)	(509.8)	-Sch B3 (Actual) Line 46	
(6) OE	(803.0)	(1,333.8)	(530.8)	-Sch B3 (Actual) Line 48	
(7) TE	(376.8)	(584.0)	(207.2)	-Sch B3 (Actual) Line 45	
(8) Total	(1,952.8)	(3,200.5)	(1,247.7)	Sum: (5) through (7)	
Net Plant in Service					
(9) CEI	1,154.0	1,713.7	559.7	(1) + (5)	
(10) OE	1,271.0	2,049.0	778.0	(2) + (6)	
(11) TE	394.7	585.6	190.9	(3) + (7)	
(12) Total	2,819.7	4,348.3	1,528.6	Sum: (9) through (11)	
ADIT					
(13) CEI	(246.4)	(479.2)	(232.8)	-ADIT Balances (Actual) Line 3	
(14) OE	(197.1)	(595.6)	(398.5)	-ADIT Balances (Actual) Line 3	
(15) TE	(10.3)	(153.0)	(142.6)	-ADIT Balances (Actual) Line 3	
(16) Total	(453.8)	(1,227.7)	(774.0)	Sum: (13) through (15)	
Rate Base					
(17) CEI	907.7	1,234.5	326.9	(9) + (13)	
(18) OE	1,073.9	1,453.3	379.4	(10) + (14)	
(19) TE	384.4	432.7	48.3	(11) + (15)	
(20) Total	2,366.0	3,120.6	754.6	Sum: (17) through (19)	
Depreciation Exp					
(21) CEI	60.0	97.1	37.1	Sch B-3.2 (Actual) Line 46	
(22) OE	62.0	102.6	40.6	Sch B-3.2 (Actual) Line 48	
(23) TE	24.5	38.6	14.0	Sch B-3.2 (Actual) Line 45	
(24) Total	146.5	238.3	91.8	Sum: (21) through (23)	
Property Tax Exp					
(25) CEI	65.0	104.8	39.9	Sch C-3.10a (Actual) Line 4	
(26) OE	57.4	89.6	32.3	Sch C-3.10a (Actual) Line 4	
(27) TE	20.1	30.4	10.3	Sch C-3.10a (Actual) Line 4	
(28) Total	142.4	224.9	82.4	Sum: (25) through (27)	
Revenue Requirement					
	Rate Base	Return 8.48%	Deprec	Prop Tax	Rev. Req.
(29) CEI	326.9	27.7	37.1	39.9	104.7
(30) OE	379.4	32.2	40.6	32.3	105.1
(31) TE	48.3	4.1	14.0	10.3	28.4
(32) Total	754.6	64.0	91.8	82.4	238.2

Capital Structure & Returns			
	% mix	rate	wtd rate
(33) Debt	51%	6.54%	3.3%
(34) Equity	49%	10.50%	5.1%
(35) Total			8.48%

	(a)	(b)	(c)	(d)	(e)	(f)
Revenue Requirement with Tax	Equity Return	Tax Rate	Income Tax	CAT 0.26%	Taxes	Rev. Req. with Tax
(36) CEI	16.8	36.07%	9.5	0.3	9.8	17.5
(37) OE	19.5	35.85%	10.9	0.3	11.2	20.5
(38) TE	2.5	35.69%	1.4	0.1	1.5	2.9
(39) Total	38.8		21.8	0.7	22.5	41.2

(a) = Weighted Cost of Equity x Rate Base
 (b) = Current composite income tax rates

(c) = (a) x (1 / (1 - (b)) - 1)
 (d) = (Rev. Req. + (c)) x (1 / (1 - .26%) - 1)

(e) = (c) + (d)
 (f) = (e) + Rev. Req. from Lines 29-31

Ohio Edison Company: 16-1820-EL-RDR
2/28/2017 Actual Plant in Service by Accounts and Subaccounts

Schedule B-2.1 (Actual)
Page 1 of 4

NOTE: Column A contains actual plant in service balances as of 2/28/2017, adjusted to remove the cumulative pre-2007 impact of a change in pension accounting and incorporate recommendations from the March 2013, April 2014, April 2015, and April 2016 Rider DCR Audit Reports. Column B shows jurisdictional allocation factors from Case No. 07-551-EL-AIR. Additional details on the adjustments in Column D are provided on the "Summary of Exclusions per Case No. 14-1297-EL-SSO: Actual 2/28/2017 Plant in Service Balances" worksheet.

Line No.	Account No.	Account Title	Total Company (A)	Allocation % (B)	Allocated Total (C) = (A) * (B)	Adjustments (D)	Adjusted Jurisdiction (E) = (C) + (D)
<u>TRANSMISSION PLANT</u>							
1	350	Land & Land Rights	\$ 95,248,930	100%	\$ 95,248,930	\$ (86,982,409)	\$ 8,266,521
2	352	Structures & Improvements	\$ 11,756,316	100%	\$ 11,756,316		\$ 11,756,316
3	353	Station Equipment	\$ 109,537,409	100%	\$ 109,537,409		\$ 109,537,409
4	354	Towers & Fixtures	\$ 276,919	100%	\$ 276,919		\$ 276,919
5	355	Poles & Fixtures	\$ 26,929,515	100%	\$ 26,929,515		\$ 26,929,515
6	356	Overhead Conductors & Devices	\$ 37,645,417	100%	\$ 37,645,417		\$ 37,645,417
7	357	Underground Conduit	\$ 1,540,142	100%	\$ 1,540,142		\$ 1,540,142
8	358	Underground Conductors & Devices	\$ 16,551,559	100%	\$ 16,551,559		\$ 16,551,559
9	359	Roads & Trails	\$ 34,398	100%	\$ 34,398		\$ 34,398
10		Total Transmission Plant	\$ 299,520,604	100%	\$ 299,520,604	\$ (86,982,409)	\$ 212,538,195

Ohio Edison Company: 16-1820-EL-RDR
2/28/2017 Actual Plant in Service by Accounts and Subaccounts

Schedule B-2.1 (Actual)
Page 2 of 4

NOTE: Column A contains actual plant in service balances as of 2/28/2017, adjusted to remove the cumulative pre-2007 impact of a change in pension accounting and incorporate recommendations from the March 2013, April 2014, April 2015, and April 2016 Rider DCR Audit Reports. Column B shows jurisdictional allocation factors from Case No. 07-551-EL-AIR. Additional details on the adjustments in Column D are provided on the "Summary of Exclusions per Case No. 14-1297-EL-SSO: Actual 2/28/2017 Plant in Service Balances" worksheet.

Line No.	Account No.	Account Title	Total Company (A)	Allocation % (B)	Allocated Total (C) = (A) * (B)	Adjustments (D)	Adjusted Jurisdiction (E) = (C) + (D)
<u>DISTRIBUTION PLANT</u>							
11	360	Land & Land Rights	\$ 12,591,730	100%	\$ 12,591,730		\$ 12,591,730
12	361	Structures & Improvements	\$ 15,169,023	100%	\$ 15,169,023		\$ 15,169,023
13	362	Station Equipment	\$ 258,627,303	100%	\$ 258,627,303		\$ 258,627,303
14	364	Poles, Towers & Fixtures	\$ 500,252,434	100%	\$ 500,252,434		\$ 500,252,434
15	365	Overhead Conductors & Devices	\$ 735,149,021	100%	\$ 735,149,021		\$ 735,149,021
16	366	Underground Conduit	\$ 66,906,546	100%	\$ 66,906,546		\$ 66,906,546
17	367	Underground Conductors & Devices	\$ 317,471,968	100%	\$ 317,471,968		\$ 317,471,968
18	368	Line Transformers	\$ 492,917,956	100%	\$ 492,917,956		\$ 492,917,956
19	369	Services	\$ 131,912,528	100%	\$ 131,912,528		\$ 131,912,528
20	370	Meters	\$ 154,681,843	100%	\$ 154,681,843		\$ 154,681,843
21	371	Installation on Customer Premises	\$ 24,598,311	100%	\$ 24,598,311		\$ 24,598,311
22	373	Street Lighting & Signal Systems	\$ 74,208,164	100%	\$ 74,208,164		\$ 74,208,164
23	374	Asset Retirement Costs for Distribution Plant	\$ 22,272	100%	\$ 22,272		\$ 22,272
24		Total Distribution Plant	\$ 2,784,509,098	100%	\$ 2,784,509,098	\$ -	\$ 2,784,509,098

Ohio Edison Company: 16-1820-EL-RDR
2/28/2017 Actual Plant in Service by Accounts and Subaccounts

Schedule B-2.1 (Actual)
Page 3 of 4

NOTE: Column A contains actual plant in service balances as of 2/28/2017, adjusted to remove the cumulative pre-2007 impact of a change in pension accounting and incorporate recommendations from the March 2013, April 2014, April 2015, and April 2016 Rider DCR Audit Reports. Column B shows jurisdictional allocation factors from Case No. 07-551-EL-AIR. Additional details on the adjustments in Column D are provided on the "Summary of Exclusions per Case No. 14-1297-EL-SSO: Actual 2/28/2017 Plant in Service Balances" worksheet.

Line No.	Account No.	Account Title	Total Company (A)	Allocation % (B)	Allocated Total (C) = (A) * (B)	Adjustments (D)	Adjusted Jurisdiction (E) = (C) + (D)
<u>GENERAL PLANT</u>							
25	389	Land & Land Rights	\$ 3,257,286	100%	\$ 3,257,286		\$ 3,257,286
26	390	Structures & Improvements	\$ 99,206,963	100%	\$ 99,206,963		\$ 99,206,963
27	390.3	Leasehold Improvements	\$ 108,959	100%	\$ 108,959		\$ 108,959
28	391.1	Office Furniture & Equipment	\$ 6,653,672	100%	\$ 6,653,672		\$ 6,653,672
29	391.2	Data Processing Equipment	\$ 9,343,154	100%	\$ 9,343,154		\$ 9,343,154
30	392	Transportation Equipment	\$ 2,238,618	100%	\$ 2,238,618		\$ 2,238,618
31	393	Stores Equipment	\$ 1,265,913	100%	\$ 1,265,913		\$ 1,265,913
32	394	Tools, Shop & Garage Equipment	\$ 16,127,984	100%	\$ 16,127,984		\$ 16,127,984
33	395	Laboratory Equipment	\$ 5,373,033	100%	\$ 5,373,033		\$ 5,373,033
34	396	Power Operated Equipment	\$ 3,952,523	100%	\$ 3,952,523		\$ 3,952,523
35	397	Communication Equipment	\$ 33,895,194	100%	\$ 33,895,194		\$ 33,895,194
36	398	Miscellaneous Equipment	\$ 413,561	100%	\$ 413,561		\$ 413,561
37	399.1	Asset Retirement Costs for General Plant	\$ 303,410	100%	\$ 303,410		\$ 303,410
38		Total General Plant	\$ 182,140,269	100%	\$ 182,140,269	\$ -	\$ 182,140,269

Ohio Edison Company: 16-1820-EL-RDR
2/28/2017 Actual Plant in Service by Accounts and Subaccounts

Schedule B-2.1 (Actual)
Page 4 of 4

NOTE: Column A contains actual plant in service balances as of 2/28/2017, adjusted to remove the cumulative pre-2007 impact of a change in pension accounting and incorporate recommendations from the March 2013, April 2014, April 2015, and April 2016 Rider DCR Audit Reports. Column B shows jurisdictional allocation factors from Case No. 07-551-EL-AIR. Additional details on the adjustments in Column D are provided on the "Summary of Exclusions per Case No. 14-1287-EL-SSO: Actual 2/28/2017 Plant in Service Balances" worksheet.

Line No.	Account No.	Account Title	Total Company (A)	Allocation % (B)	Allocated Total (C) = (A) * (B)	Adjustments (D)	Adjusted Jurisdiction (E) = (C) + (D)
<u>OTHER PLANT</u>							
39	301	Organization	\$ 89,746	100%	\$ 89,746		\$ 89,746
40	303	Intangible Software	\$ 81,364,359	100%	\$ 81,364,359		\$ 81,364,359
41	303	Intangible FAS 109 Transmission	\$ 2,023,278	100%	\$ 2,023,278		\$ 2,023,278
42	303	Intangible FAS 109 Distribution	\$ 1,531,123	100%	\$ 1,531,123		\$ 1,531,123
43	303	Intangible FAS 109 General	\$ 199,091	100%	\$ 199,091		\$ 199,091
44		Total Other Plant	\$ 85,207,597		\$ 85,207,597	\$ -	\$ 85,207,597
45		Company Total Plant	\$ 3,351,377,568	100%	\$ 3,351,377,568	\$ (86,982,409)	\$ 3,264,395,159
46		Service Company Plant Allocated*					\$ 118,373,520
47		Grand Total Plant (45 + 46)					\$ 3,382,768,679

* Source: Line 2 of the "Service Company Allocations to the Ohio Operating Companies (Actual)" worksheet.

Duke Energy Ohio
Revenue Requirement for Rider DCI

Line	Description	6/30/2016 ^(a)	Dec 31-17	Dec 31-18	Dec 31-19	Dec 31-20	Dec 31-21	Dec 31-22	Dec 31-23	Dec 31-24
1	Gross Plant ^(b)	\$2,688,719,896	\$2,999,412,644	\$3,318,432,633	\$3,612,733,982	\$3,912,646,340	\$4,179,873,513	\$4,429,486,780	\$4,676,049,766	\$4,922,612,751
2	Accumulated Depreciation ^(b)	902,592,490	961,722,134	1,018,927,030	1,084,771,655	1,156,931,019	1,237,876,502	1,313,486,578	1,388,172,695	1,462,858,813
3	Net Plant in Service	\$1,786,127,406	\$2,037,690,510	\$2,299,505,603	\$2,527,962,327	\$2,755,715,321	\$2,941,997,010	\$3,116,000,203	\$3,287,877,071	\$3,459,753,938
4	Accumulated Deferred Income Taxes ^(b)	(\$496,949,441)	(\$573,745,678)	(\$633,821,550)	(\$697,801,923)	(\$748,422,055)	(\$777,417,500)	(\$806,412,944)	(\$835,408,389)	(\$864,403,833)
5	Distribution Rate Base for Rider DCI	\$1,289,177,965	\$1,463,944,832	\$1,665,684,052	\$1,830,160,404	\$2,007,293,266	\$2,164,579,511	\$2,309,587,259	\$2,452,468,682	\$2,595,350,105
6	Return on Rate Base (Pre-Tax %) ^(c)	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%
7	Return on Rate Base (Pre-Tax)	\$139,746,891	\$158,691,620	\$180,560,151	\$198,389,388	\$217,590,590	\$234,640,419	\$250,359,259	\$265,847,605	\$281,335,951
8	Depreciation Expense	\$90,962,030	\$101,473,070	\$112,265,829	\$122,222,332	\$132,368,661	\$141,409,219	\$149,853,880	\$158,195,348	\$166,536,815
9	Property Tax Expense (Excludes M&S)	\$89,836,082	\$100,789,316	\$112,036,119	\$122,411,487	\$132,984,666	\$142,405,553	\$151,205,477	\$159,897,865	\$168,590,253
10	Revenue Requirement Before CAT	\$320,545,003	\$360,954,006	\$404,862,100	\$443,023,207	\$482,943,917	\$518,455,191	\$551,418,616	\$583,940,818	\$616,463,019
11	Change in Revenue Requirement		\$40,409,002	\$84,317,097	\$122,478,203	\$162,398,914	\$197,910,188	\$230,873,612	\$263,395,814	\$295,918,016
12	Incremental Commercial Activities Tax		\$105,337	\$219,796	\$319,273	\$423,338	\$515,908	\$601,836	\$686,614	\$771,392
13	Total Rider DCI Revenue Requirement		\$40,514,340	\$84,536,892	\$122,797,477	\$162,822,252	\$198,426,096	\$231,475,449	\$264,082,428	\$296,689,408
14	Annual Base Distribution Revenue ^(d)		\$484,859,699	\$484,859,699	\$484,859,700	\$484,859,701	\$484,859,702	\$484,859,703	\$484,859,704	\$484,859,705
15	DEO Percentage of Base Distribution Revenue		8.356%	17.435%	25.326%	33.581%	40.924%	47.741%	54.466%	61.191%

Notes:
^(a) Schedule B-1, as filed, in Case No. 17-32-EL-AIR.
^(b) Includes distribution plant and distribution-related general, intangible, and common plant.
^(c) From Schedule D-1 in Case No. 17-32-EL-AIR, grossed up for taxes.
^(d) Base distribution revenue at proposed rates per Schedule E-4, page 1, as filed in Case No. 17-32-EL-AIR.

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to)	
Establish a Standard Service Offer)	
Pursuant to Section 4928.143, Revised	)	Case No. 17-1263-EL-SSO
Code, in the Form of an Electric Security)	
Plan, Accounting Modifications and)	
Tariffs for Generation Service.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Amend	)	Case No. 17-1264-EL-ATA
its Certified Supplier Tariff, P.U.C.O. No.)	
20.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Defer	)	Case No. 17-1265-EL-AAM
Vegetation Management Costs.)	

DIRECT TESTIMONY OF

SCOTT B. NICHOLSON

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 1, 2017

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION.....	1
II. OPERATIONAL SUPPORT PLAN	2
III. CUSTOMER CHOICE ENHANCEMENTS.....	3
IV. RIDER UE-GEN AND PURCHASE OF ACCOUNTS RECEIVABLE PROGRAM	7
V. PROPOSED REVISIONS TO THE CERTIFIED SUPPLIER TARIFF AND THE RETAIL ELECTRIC SERVICE TARIFF	8
VI. CONCLUSION	10

Attachments:

- SBN-1: Certified Supplier Tariff (Redlined)
- SBN-2: Certified Supplier Tariff (Clean)

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Scott B. Nicholson, and my business address is 139 East Fourth
3 Street, Cincinnati, Ohio 45202.

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

5 A. I am employed by Duke Energy Ohio, Inc., (Duke Energy Ohio or the Company)
6 as Manager, Ohio Customer Choice.

7 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND**
8 **PROFESSIONAL EXPERIENCE.**

9 A. I hold Master of Science and Bachelor of Science Degrees in Economics from
10 Illinois State University. I began my professional career as a staff member at the
11 Illinois Commerce Commission. Subsequent to leaving the commission, I have
12 held a variety of positions in the electric utility industry, including positions at
13 Potomac Electric Power Company, Central Illinois Public Service Company, and
14 Cadence Network (facility utility expense management). I joined Duke Energy
15 Corporation (Duke Energy) in 1997 and, in my tenure, have worked for various of
16 its affiliates. I was promoted to my current position as Manager, Ohio Customer
17 Choice, in 2016.

18 **Q. PLEASE DESCRIBE YOUR DUTIES AS MANAGER, OHIO CUSTOMER**
19 **CHOICE.**

20 A. As Manager, Ohio Customer Choice, I have responsibility for overseeing the
21 certified supplier business office where the Company facilitates data flow and
22 billing management with competitive retail energy service (CRES) providers.

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

3 A. No.

4 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE**
5 **PROCEEDINGS?**

6 A. The purpose of my testimony is, first, to discuss Duke Energy Ohio's Operational
7 Support Plan (Plan), which was adopted pursuant to R.C. 4928.31(A)(3). I also
8 testify regarding the enhancements Duke Energy Ohio has made to its Electric
9 Customer Choice Program under the current electric security plan (ESP). Finally,
10 I testify concerning Duke Energy Ohio's proposed revisions to its Certified
11 Supplier Tariff, P.U.C.O. Electric No. 20 (Supplier Tariff).

12 **Q. WHAT ARE THE ATTACHMENTS FOR WHICH YOU ARE**
13 **RESPONSIBLE?**

14 A. I am sponsoring Attachments SBN-1 and SBN-2, which are the redlined and clean
15 versions of the Supplier Tariff.

II. OPERATIONAL SUPPORT PLAN

16 **Q. WHAT IS AN OPERATIONAL SUPPORT PLAN?**

17 A. R.C. 4928.31(A)(3) required each electric utility, in the context of its transition to
18 deregulation, to file a plan "to address operational support systems and any other
19 technical implementation issues pertaining to competitive retail electric service
20 consistent with any rules adopted by the commission under division (A) of section
21 4928.06 of the Revised Code."

1 **Q. WHAT IS THE STATUS OF DUKE ENERGY OHIO'S OPERATIONAL**
2 **SUPPORT PLAN?**

3 A. The Company's Operational Support Plan was initially approved in its transition
4 case. With minor changes, the Plan was also approved in 2008.¹ The plan was
5 thus implemented without issue. Indeed, the Public Utilities Commission of Ohio
6 (Commission) has found that "the Company has fulfilled its obligations regarding
7 its [operational support plan]."²

III. CUSTOMER CHOICE ENHANCEMENTS

8 **Q. PLEASE GENERALLY DISCUSS THE STATUS OF RETAIL**
9 **COMPETITION IN THE DUKE ENERGY OHIO SERVICE TERRITORY.**

10 A. Duke Energy Ohio currently has 81 active CRES providers registered to do
11 business in its service territory – a number that has increased over time. As
12 indicated on the Commission's summary of switching activity, the Company's
13 customers continue to engage in choice. Indeed, as of December 2015, more than
14 74 percent of Duke Energy Ohio's load was served by CRES providers and, as of
15 December 2016, that percentage increased to almost 80 percent. The lack of
16 significant variation in these switching rates confirms that the competitive retail
17 supply market in the Duke Energy Ohio service territory is mature.

18 **Q. PLEASE DISCUSS THE SOURCES AVAILABLE TO CRES PROVIDERS**
19 **TO OBTAIN INFORMATION RELEVANT TO CUSTOMER CHOICE.**

¹ *In the Matter of the Application of Duke Energy Ohio, Inc., for Approval of an Electric Security Plan, Case No. 08-920-EL-SSO, et al.*

² *In the Matter of the Application of Duke Energy Ohio, Inc., for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan, Accounting Modifications, and Tariffs for Generation Service, Case No. 14-841-EL-SSO, et al., Opinion and Order, at pg. 83 (April 2, 2015).*

- 1 A. There are three sources that CRES providers in the Duke Energy Ohio service
2 territory may access information, including customer energy usage data (CEUD).
3 These sources include:
- 4 • Pre-enrollment List – The Pre-enrollment List provides 12 months of
5 monthly customer usage data for all customers (except for those customers
6 who have opted out of the list). The list also includes load profile
7 indicators, current and future Peak Load Contribution (PLC) values, and
8 indicates whether a customer is taking service from a supplier. It is
9 important to note that this list does not contain customer account numbers.
 - 10 • Electronic Data Interchange (EDI) – CEUD is also available through an
11 EDI transaction. EDI can provide both monthly and interval customer
12 usage data, for up to 12 months, and interval data is provided in 15-minute
13 intervals. The interval data that is available from EDI is only for those
14 customers, typically commercial customers, that have an Interval Data
15 Recorder (IDR) meter.
 - 16 • Portal – An internet Portal is also available to CRES providers to obtain
17 CEUD. This information is available to CRES providers on a per-
18 customer basis. That is, a CRES provider can request information, subject
19 to having obtained the proper authorization, one customer at a time. The
20 Portal provides both monthly and interval customer data, as described
21 below.
 - 22 ○ The Portal provides up to 24 months of monthly customer usage
23 data (as well as current and future PLC values) for all customer

1 classes, including residential customers, provided proper
2 authorization is secured.

3 ○ The Portal provides hourly interval customer usage data for
4 customers who have either an IDR or an advanced meter
5 infrastructure (AMI) meter. This data can be requested for either
6 the most recent 12- or 24-month billing period. Each hourly
7 interval indicates whether the data in that interval is of billing
8 quality or not.

9 **Q. HAS DUKE ENERGY OHIO IMPLEMENTED MEASURES TO**
10 **ENHANCE RETAIL COMPETITION IN ITS SERVICE TERRITORY?**

11 A. Yes. Duke Energy Ohio continues to lead the effort to implement measures that
12 enhance the competitive retail market.

13 **Q. WHAT ENHANCEMENTS HAS DUKE ENERGY OHIO MADE TO ITS**
14 **ELECTRIC CUSTOMER CHOICE PROGRAM DURING THE TERM OF**
15 **THE CURRENT ESP?**

16 A. The enhancements concern the provision of certain CEUD via the Portal.
17 Specifically, beginning in November 2015, CRES providers could access non-
18 residential AMI interval CEUD through the Portal. Additionally, beginning May
19 2016, CRES providers could obtain interval CEUD associated with residential
20 customers served by AMI meters.

21 **Q. CAN CRES PROVIDERS, IN ONE REQUEST, OBTAIN INTERVAL**
22 **CEUD FOR MULTIPLE ACCOUNTS?**

23 A. No. The current system enables CRES providers to access interval CEUD through
24 the Portal one customer at a time.

1 **Q. ARE THERE MODIFICATIONS THAT WOULD IMPROVE CRES**
2 **PROVIDERS' ABILITY TO ACCESS INTERVAL CEUD?**

3 A. Yes. The Company's Ohio AMI Transition, as discussed by Duke Energy Ohio
4 witness Donald L. Schneider, Jr., and certain information technology (IT)
5 enhancements would allow CRES providers to access interval CEUD in a more
6 comprehensive fashion. Additionally, these IT enhancements would improve
7 interaction between the Company and CRES providers. I have identified these IT
8 enhancements in testimony filed in other pending regulatory proceedings.
9 Importantly, the Ohio AMI Transition is a prerequisite to providing bill-quality
10 interval data.

11 **Q. IN THESE PROCEEDINGS, IS THE COMPANY SEEKING**
12 **COMMISSION APPROVAL TO UNDERTAKE THESE IT**
13 **ENHANCEMENTS AND FOR RELATED COST RECOVERY?**

14 A. The IT enhancements that I have previously discussed would be undertaken only
15 after the Commission provides further guidance on the provision of CEUD and
16 related cost recovery. Stated another way, the Company is not intending to
17 implement these changes absent a regulatory directive, which directive includes
18 an appropriate mechanism for cost recovery. As to this latter point, I would offer,
19 however, that the capital costs of the IT enhancements would be eligible for
20 recovery under Rider DCI, as proposed in these proceedings, as they are reflective
21 of efforts to modernize the distribution system that necessarily includes
22 supporting technologies. Additionally, the operating and maintenance costs would
23 be recoverable under Rider PowerForward. Company witness William Don
24 Wathen Jr. provides further discussion of these two riders.

**IV. RIDER UE-GEN AND PURCHASE OF
ACCOUNTS RECEIVABLE PROGRAM**

1 **Q. PLEASE DISCUSS THE COMPANY’S PURCHASE OF ACCOUNTS**
2 **RECEIVABLE PROGRAM.**

3 A. Duke Energy Ohio has had a purchase of accounts receivable program (POR) for
4 several years. However, the most recent revisions to that program resulted from
5 the Company’s second ESP, filed under Case No. 11-3549-EL-SSO. Therein, the
6 stipulating parties agreed, and the Commission approved, revisions to the POR
7 such that Duke Energy Ohio would purchase receivables from participating CRES
8 providers at no discount and pay participating CRES providers for such
9 receivables no later than the twentieth day of the month after the month in which
10 the billing occurs.³

11 Participation in the POR is not mandatory. However, currently, only two
12 CRES providers eligible for participation have not enrolled in the POR. It thus
13 continues to be program of interest and benefit to CRES providers and the
14 Company proposes to continue the POR, subject to the following.

15 The necessary complement to the POR is Rider UE-GEN, through which
16 the Company recovers uncollectible generation expense. In order for the
17 Company to continue its POR – an effective Ohio Choice-related program – under
18 the existing terms and conditions, Rider UE-GEN must also continue. Company
19 witness Wathen discusses Rider UE-GEN in greater detail.

³ *In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications, and Tariffs for Generation Service, Case No. 11-3549-EL-SSO, et al., Stipulation and Recommendation, at pp. 28-30 (October 24, 2011) and Opinion and Order, at pg. 48 (November 22, 2011) (Commission modifications to the Stipulation and Recommendation did not concern the POR).*

**V. PROPOSED REVISIONS TO THE
CERTIFIED SUPPLIER TARIFF AND THE RETAIL ELECTRIC
SERVICE TARIFF**

1 **Q. PLEASE DESCRIBE THE PROPOSED REVISIONS TO BE MADE TO**
2 **THE SUPPLIER TARIFF.**

3 A. There are four separate sheets within the Certified Supplier Tariff that should be
4 revised. I discuss these revisions below, further providing a brief explanation for
5 each requested change. The text of each change proposed in the Certified Supplier
6 Tariff is set forth in Attachment SBN-1.

- 7 • Sheet No. 36.7, Section 7.3(d)
- 8 ○ The data included on the end-use customer information, or pre-
9 enrollment, list needs to be updated to reflect the data currently
10 provided.
- 11 ○ This change has a corresponding effect on the Retail Electric
12 Service Tariff, as reflected in the attachments to the Direct
13 Testimony of Company witness James E. Ziolkowski.
- 14 • Sheet No. 36.7, Section 7.3(e)
- 15 ○ The name of the entity administering Ohio's percentage of income
16 payment plan for electric customers needs to be updated to reflect
17 the Ohio Development Services Agency.

- 1 • Sheet No. 36.7, Section 7.4(d)
 - 2 ○ CRES providers can now request historical interval meter data via
 - 3 an EDI transaction or the Company's Portal, provided proper
 - 4 customer authorization is provided. Revision is necessary to
 - 5 reflect these two methods for requesting and receiving the
 - 6 historical data.
- 7 • Sheet No. 39.4, Section 10.12
 - 8 ○ This will be a new section addressing the Company's existing
 - 9 supplier logo service, consistent with the Commission's order in
 - 10 Case No. 14-2128-EL-UNC.
- 11 • Sheet No. 49.4, Section 19.1(f)
 - 12 ○ A revision is necessary to delete the reference to the Midcontinent
 - 13 Independent System Operator as Duke Energy Ohio is not a
 - 14 member of that regional transmission organization.
- 15 • Sheet No. 49.4, Section 19.1(j)
 - 16 ○ This will be a new section providing another basis for default,
 - 17 suspension, and termination predicated upon the failure to obtain
 - 18 proper customer authorization.
- 19 • Sheet 52.4
 - 20 ○ Certain of these charges must be slightly modified given system
 - 21 billing capabilities that restrict charges to two decimal places.

VI. CONCLUSION

1 **Q. WERE ATTACHMENTS SBN-1 AND SBN-2 PREPARED BY YOU OR**
2 **UNDER YOUR SUPERVISION?**

3 **A. Yes.**

4 **Q. IS THE INFORMATION CONTAINED IN ATTACHMENTS SBN-1 AND**
5 **SBN-2 TRUE AND ACCURATE TO THE BEST OF YOUR KNOWLEDGE**
6 **AND BELIEF?**

7 **A. Yes.**

8 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

9 **A. Yes.**

Duke Energy Ohio
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Cincinnati, Ohio 45202

P.U.C.O. Electric No. 19
Sheet No. 22,10
Canceling and Superseding
Sheet No. 22,9
Page 1 of 7

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Deleted: 8

SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES

1. Selection of Certified Supplier

In order to obtain Competitive Retail Electric Service from a Certified Supplier, a customer must enter into an agreement with a Certified Supplier who meets the requirements for participation in this Customer Choice Program pursuant to the Certified Supplier Service Rules, Regulations, and Rates, specified in Duke Energy Ohio P.U.C.O. Electric No. 20. Enrollment of customers is done through a Direct Access Service Request (DASR), which may be submitted only by Certified Suppliers. DASRs will be effective on the next regularly scheduled meter read date provided that it is received by the Company at least twelve (12) calendar days before the next regularly scheduled meter read date. Enrollments will be processed on a "first in" priority basis based on the received date, using contract date as the tiebreaker. Should the contract date also be the same, the enrollments will be processed on a first in priority basis, based on the order in which the Company received the DASRs. An account may only be served by one Certified Supplier at a time.

Customers may contact the Company at any time to report that they have been switched without giving consent. To decrease the probability of this occurring, the Company requires that Certified Suppliers obtain, and maintain in their files, customer authorizations as dictated by Commission rules. These authorizations must be made available to the Company, upon request, within three (3) business days.

2. Pre-Enrollment End-use Customer Information List

Upon request, the Company will electronically provide to any supplier certified by the Commission the most recent End-use Customer information list. Once the list has been updated, a supplier may not use an End-use Customer information list from a prior quarter to contact a customer, but suppliers shall not be required to purchase subsequent lists.

The Company will provide customers the option to have all the customer's information listed in P.U.C.O. Electric No. 20, Sheet No. 36.8, paragraph 7.3 removed from the End-use Customer information list. The Company will also provide customers the option to have all the customer's information listed reinstated on the End-use Customer information list. The customer will be provided written notice of his or her options.

Information will be provided on the End-use Customer information list for each customer who has not requested that all information be removed from this list as specified in P.U.C.O. Electric No. 20, Sheet No. 36.8, paragraph 7.3.

(a) *

3. Customer Choice Participation Requirements

To participate in the Customer Choice Program, a customer must have an active electric service account with the Company. After the Company has accepted the customer's application for electric service, the customer may select and contact a Certified Supplier. The Company shall provide a list of all approved Certified Suppliers and which classes of customers the Certified Supplier will serve to a) all of its customers quarterly; b) all applicants for new service and customers returning to Standard Offer Service; and c) any customer upon request. The Company shall not endorse any Certified Supplier nor Filed pursuant to an Order dated _____ in Case No. 17-1263-EL-SSO before the Public Utilities Commission of Ohio.

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<#>Service Address¶
<#>Service City¶
<#>Service State and Zip Code¶
<#>Billing Address¶
<#>Billing City¶
<#>Billing State and Zip Code¶

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SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)¶

¶
<#>Rate Schedule under which service is rendered, including class and sub-class (if applicable)¶
<#>Rider (if applicable)¶
<#>Load Profile Reference Category . ¶
<#>Meter Type (will provide information that is readily available)¶
<#>Interval Meter data indicator (will provide information that is readily available)¶
<#>Budget Bill/PIPP indicator¶
<#>Meter Read Cycle¶
Most recent twelve (12) months of historical consumption data (actual energy usage plus demand, if available)

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Deleted: May 11, 2015

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Duke Energy Ohio
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P.U.C.O. Electric No. 19
Sheet No. 22¹⁰
Canceling and Superseding
Sheet No. 22⁹
Page 2 of 7

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Deleted: 8

indicate that any Certified Supplier will receive preference because of a corporate relationship.

Interval Meters are required for customers who choose a Certified Supplier and have a maximum peak demand equal to or greater than 200 kW for the most recent twelve (12) month period. Interval Meters are also required for those customers that have an interruptible load contract with their Certified Supplier. The Company may also require Interval Metering, at Company expense, for other customers based on a review of the customer's rate schedule, billing history and class load profile information. In addition, a communication link must also be installed. The enrollment DASR for these customers will not be approved until a customer-signed Interval Meter request work order has been executed and submitted approving the Interval Meter installation.

Customers are responsible for the incremental costs of the Interval Meters and the incremental costs associated with the installation of required Interval Metering. While the Company will install the meter, the Certified Supplier, on behalf of the customer, or the customer, must arrange for the installation of the communication link (analog telephone line, hard wired or cellular). The Company will be allowed access to the communication link for meter interrogation. The Interval Metering equipment will be maintained and owned by the Company. The charges for the installation of the Interval Metering equipment are specified on tariff Sheet No. 96 "Meter Service Charges." These charges may be paid over a period not to exceed twenty-four (24) months.

Upon the successful processing of an enrollment and/or drop DASR, the Company will notify the customers in writing with the name and phone number of the Certified Supplier, the previous Certified Supplier (if applicable), the effective service change date, the Company's toll-free telephone number, the right to request an actual meter read prior to the transfer of service and the right to rescind (if applicable).

SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

4. Switching Rules

An enrollment DASR must be received by the Company at least twelve (12) calendar days before the effective date, which will be the customer's next regularly scheduled meter reading date, to enroll with or switch to a new Certified Supplier. Enrollment DASRs will be effective according to the following schedule:

- (a) If an enrollment DASR is received twelve (12) or more days prior to the next regularly scheduled meter read date and no other enrollment DASR is currently pending, the enrollment DASR will be effective on the next regularly scheduled meter read date.
- (b) If an enrollment DASR is received less than twelve (12) days prior to the next regularly scheduled meter read date and no other enrollment DASR is currently pending, the enrollment DASR will be effective on the second regularly scheduled meter read date after the enrollment DASR is received.
- (c) If an enrollment DASR is currently pending, and another enrollment DASR is received, the first enrollment DASR will be effective and the second enrollment DASR will be rejected. There cannot be two pending enrollment DASRs for the same account at the same time.

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P.U.C.O. Electric No. 19
Sheet No. 22, 10
Canceling and Superseding
Sheet No. 22, 9
Page 3 of 7

Deleted: 9

Deleted: 8

- (d) If an enrollment DADR for an active electric service account is submitted for the Company Consolidated billing option known as Bill Ready and the account is currently involved in the Company's summary billing program, the DADR will be rejected until the Company's information system has the capability to accept such DADRs. In order for an enrollment DADR to be accepted for a summary billing account, the Certified Supplier must submit the DADR with a billing option for either separate billing by the Company and the Certified Supplier or the Company Consolidated billing option known as Rate Ready.
- (e) If an enrollment DADR for an active electric service account is submitted for the Company Consolidated billing option known as Bill Ready and the account is currently involved in the Company's adjusted due date program, the DADR will be rejected until the Company's information system has the capability to accept such DADRs. In order for an enrollment DADR to be accepted for an account with an adjusted due date, the Certified Supplier must submit the DADR with a billing option for either separate billing by the Company and the Certified Supplier or the Company Consolidated billing option known as Rate Ready.

For the purpose of switching rules, customers are divided into three categories: Residential End-use Customers, Nonmercantile Customers, and Mercantile Customers. Residential End-use Customers are customers who use electricity for residential purposes. Nonmercantile Customers are defined as customers who use electricity for nonresidential purposes, consume less than 700,000 kWh of electricity per year and are not part of a national account involving multiple facilities in one or more states. Mercantile Customers are customers who use electricity for nonresidential purposes, consume greater than or equal to 700,000 kWh of electricity per year or are part of a national account involving multiple facilities in one or more states.

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P.U.C.O. Electric No. 19
Sheet No. 22, 10
Canceling and Superseding
Sheet No. 22, 9
Page 4 of 7

Deleted: 9

Deleted: 8

SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

Residential End-use Customers and Nonmercantile Customers, pursuant to Commission rules, have the right to rescind an enrollment. Any Residential End-use Customer or Nonmercantile Customer enrollment, either with a Certified Supplier or with the Company, may be rescinded by contacting the Company within seven days from the postmark date on the notice advising of the enrollment. When the Company receives notice of a rescission, the impending enrollment will be cancelled and the Residential End-use Customer or Nonmercantile Customer will remain with their current supplier.

End-use Customer Return to SSO Service

- (a) An End-use Customer's return to SSO service may be a result of End-use Customer choice, Certified Supplier default, termination of a Certified Supplier contract, opt out or termination of a governmental aggregation program, or Certified Supplier withdrawal.
- (b) An End-use Customer may contact the Company to return to the Company's SSO. The return to the SSO shall be conducted under the same terms and conditions applicable to an enrollment with a Certified Supplier. Thus, the Company will provide a rescission period consistent with the Commission's rules. Provided the End-use Customer has observed the applicable notification requirements and the Company has effectuated the request to return to the SSO twelve calendar days prior to the next regularly scheduled Meter Read Date, the End-use Customer will be returned to the SSO on the next regularly scheduled Meter Read Date.
- (c) Residential End-use Customers
 - i) Residential End-use Customers are not subject to a minimum stay.
 - ii) If a Residential End-use Customer's Certified Supplier defaults or the Residential End-use Customer opts out of a governmental aggregation program, the Residential End-use Customer will return to the Company's SSO and may switch to another Certified Supplier at any time. A Residential End-use Customer opting out of a governmental aggregation program must contact and inform the Company of the "opt out".
 - iii) The Residential End-use Customer will be mailed a letter the day following the successful processing of a DASR returning the Residential End-use Customer to the Company.

(d) Non-Mercantile Customers

- i) Non-Mercantile Customers are not subject to a minimum stay.

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Deleted: 841

Deleted: May 11, 2015

Deleted: June 1, 2015

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P.U.C.O. Electric No. 19
Sheet No. 22, 10
Canceling and Superseding
Sheet No. 22, 9
Page 5 of 7

Deleted: 9

Deleted: 8

SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

- ii) If a Nonmercantile Customer returns to the Company, the Nonmercantile Customer is placed on the SSO. The Nonmercantile Customer will be mailed a letter the day following the successful processing of a DASR returning the Nonmercantile Customer to the Company.

(e) Mercantile Customers

- i) Mercantile Customers are not subject to a minimum stay.
- ii) If a Mercantile Customer returns to the Company, the Mercantile Customer is placed on the SSO. The Mercantile Customer will be mailed a letter the day following the successful processing of a DASR returning the Mercantile Customer to the Company.

5. Certified Supplier Defaults

If a Certified Supplier defaults, the Company will notify the customers of the default. However, service to the affected customers will not be interrupted due to the default. The customers involved will return to the Company's Standard Offer Rate on their next regular scheduled meter read date, unless there is sufficient time to choose an alternative supplier.

6. Certified Supplier Drops Customer

If the Certified Supplier decides to discontinue service to a customer, the Certified Supplier will notify the customer in accordance with Commission rules and submit a Drop DASR to the Company at least twelve (12) calendar days in advance of the requested drop date, which will be the next regular scheduled meter read date. The Company will notify the customer when a Drop DASR is received.

7. Requests for Customer Specific Usage Information

A customer or a Certified Supplier, acting as the customer's authorized agent, may request specific usage information. The customer specific usage request will include twelve (12) months of historical data (if available) including monthly kWh usage, meter read dates, and associated monthly maximum demand history, if applicable.

This information will be provided to the customer or the Certified Supplier, acting as the customer's authorized agent, free of charge.

If the customer requests monthly Interval Metering data, the customer will be required to pay the charge specified on the tariff Sheet No. 95 "Meter Data Charges." Charges to Certified Suppliers for Interval Meter data are specified in P.U.C.O. Electric No. 20.

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Deleted: May 11, 2015

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Duke Energy Ohio
139 East Fourth Street
Cincinnati, Ohio 45202

P.U.C.O. Electric No. 19
Sheet No. 22, 10
Canceling and Superseding
Sheet No. 22, 9
Page 6 of 7

Deleted: 9

Deleted: 8

SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

8. Customer Aggregation

Customers may be aggregated for purposes of negotiating the purchase of Competitive Retail Electric Services from a Certified Supplier. Customer aggregation is not restricted by the class of customer within an aggregated group. Accordingly, any customer may be represented by an aggregator. However, an aggregator is not a customer, but rather an agent for aggregated customers. Each aggregated customer will be treated as an individual customer of the Company for billing purposes under their otherwise applicable rate schedules. Combination of meter registrations of aggregated customers will not be permitted. No charge of a tariff service will be affected by a customer's aggregation status, and aggregation of load cannot be used for qualification under a tariff.

9. Bill Payment Option

A Certified Supplier must notify the Company which billing option is being chosen for its customers: (1) Company Consolidated billing or (2) separate billing by the Company and the Certified Supplier. When the Company Consolidated billing option is selected, the customer will receive one bill from the Company, which will include both the Company's and the Certified Supplier's charges stated separately. The customer is responsible for payment in full to the Company for both the Company and Certified Supplier charges when the Company performs consolidated billing. The billing option must be identified at the time the enrollment DASR is submitted to the Company. Regardless of the billing option selected by the Certified Supplier, the customer may still choose to have budget billing for bills rendered by the Company.

For customers who have a maximum annual peak demand greater than or equal to 200 kW for the most recent twelve (12) month period, the required Interval Metering will be used to support the Certified Suppliers' billing options. If a customer has a maximum annual peak demand less than 200 kW and the Company must install special metering to support a Certified Supplier's billing option, the customer will be responsible for the incremental costs of upgrading the present meter plus all costs associated with the installation of that metering equipment. The charges for an Interval Meter will be at the tariffed rate, which may be paid over a period not to exceed twenty-four (24) months.

If the Company is providing the consolidated bill option for the Certified Supplier, the Company will remit payments received for Certified Supplier charges including the associated taxes to the Certified Supplier.

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Deleted: 841

Deleted: May 11, 2015

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P.U.C.O. Electric No. 19
Sheet No. 22, 10
Canceling and Superseding
Sheet No. 22, 9
Page 7 of 7

Deleted: 9

Deleted: 8

SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

All billed charges are grouped into categories and a payment priority is established for each. If a partial payment is received, the Company will apply the following payment priorities classification. Payments will be applied first to prior gas and electric Regulated Utility Charges, second to current gas and electric Regulated Utility Charges, third to prior electric Certified Supplier charges and gas supplier charges (if applicable), fourth to current electric Certified Supplier charges and gas supplier charges (if applicable), and then on a pro-rata basis for non-regulated products and services. When the priority classification is equal, payments will be applied to the oldest receivables first.

If the dual bill option is chosen, the customer will receive separate bills from the Company and the Certified Supplier for their respective charges. The Company and Certified Supplier shall be individually responsible for the collection of their respective charges.

Regardless of the bill option chosen by the Certified Supplier, customers who fail to pay in full their Regulated Utility Charges to the Company will be subject to the Company's late payment charge policy as it applies to those Regulated Utility Charges. The customer will also be subject to the rules and regulations governing the credit, collection and disconnection procedures in accordance with Sections 4901:1-17 and 4901:1-18 of the Ohio Administrative Code.

The Certified Supplier is ultimately responsible for the collection of any unpaid charges for services provided by them, as well as for developing their own credit and collection policies. However, in the course of following its collection procedures for Regulated Utility Charges, the Company may inform customers of such arrearages. In accordance with the rules and regulations governing the credit, collection and disconnection procedures specified in Sections 4901:1-17 and 4901:1-18 of the Ohio Administrative Code, the Certified Supplier may not physically disconnect customers for non-payment of Certified Supplier charges.

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SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES

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2. Pre-Enrollment End-use Customer Information List

Upon request, the Company will electronically provide to any supplier certified by the Commission the most recent End-use Customer information list. Once the list has been updated, a supplier may not use an End-use Customer information list from a prior quarter to contact a customer, but suppliers shall not be required to purchase subsequent lists.

The Company will provide customers the option to have all the customer's information listed in P.U.C.O. Electric No. 20, Sheet No. 36.8, paragraph 7.3 removed from the End-use Customer information list. The Company will also provide customers the option to have all the customer's information listed reinstated on the End-use Customer information list. The customer will be provided written notice of his or her options.

Information will be provided on the End-use Customer information list for each customer who has not requested that all information be removed from this list as specified in P.U.C.O. Electric No. 20, Sheet No. 36.8, paragraph 7.3.

3. Customer Choice Participation Requirements

To participate in the Customer Choice Program, a customer must have an active electric service account with the Company. After the Company has accepted the customer's application for electric service, the customer may select and contact a Certified Supplier. The Company shall provide a list of all approved Certified Suppliers and which classes of customers the Certified Supplier will serve to a) all of its customers quarterly; b) all applicants for new service and customers returning to Standard Offer Service; and c) any customer upon request. The Company shall not endorse any Certified Supplier nor Filed pursuant to an Order dated _____ in Case No. 17-1263-EL-SSO before the Public Utilities Commission of Ohio.

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indicate that any Certified Supplier will receive preference because of a corporate relationship.

Interval Meters are required for customers who choose a Certified Supplier and have a maximum peak demand equal to or greater than 200 kW for the most recent twelve (12) month period. Interval Meters are also required for those customers that have an interruptible load contract with their Certified Supplier. The Company may also require Interval Metering, at Company expense, for other customers based on a review of the customer's rate schedule, billing history and class load profile information. In addition, a communication link must also be installed. The enrollment DADR for these customers will not be approved until a customer-signed Interval Meter request work order has been executed and submitted approving the Interval Meter installation.

Customers are responsible for the incremental costs of the Interval Meters and the incremental costs associated with the installation of required Interval Metering. While the Company will install the meter, the Certified Supplier, on behalf of the customer, or the customer, must arrange for the installation of the communication link (analog telephone line, hard wired or cellular). The Company will be allowed access to the communication link for meter interrogation. The Interval Metering equipment will be maintained and owned by the Company. The charges for the installation of the Interval Metering equipment are specified on tariff Sheet No. 96 "Meter Service Charges." These charges may be paid over a period not to exceed twenty-four (24) months.

Upon the successful processing of an enrollment and/or drop DADR, the Company will notify the customers in writing with the name and phone number of the Certified Supplier, the previous Certified Supplier (if applicable), the effective service change date, the Company's toll-free telephone number, the right to request an actual meter read prior to the transfer of service and the right to rescind (if applicable).

SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

4. Switching Rules

An enrollment DADR must be received by the Company at least twelve (12) calendar days before the effective date, which will be the customer's next regularly scheduled meter reading date, to enroll with or switch to a new Certified Supplier. Enrollment DADRs will be effective according to the following schedule:

- (a) If an enrollment DADR is received twelve (12) or more days prior to the next regularly scheduled meter read date and no other enrollment DADR is currently pending, the enrollment DADR will be effective on the next regularly scheduled meter read date.
- (b) If an enrollment DADR is received less than twelve (12) days prior to the next regularly scheduled meter read date and no other enrollment DADR is currently pending, the enrollment DADR will be effective on the second regularly scheduled meter read date after the enrollment DADR is received.
- (c) If an enrollment DADR is currently pending, and another enrollment DADR is received, the first enrollment DADR will be effective and the second enrollment DADR will be rejected. There cannot be two pending enrollment DADRs for the same account at the same time.

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- (d) If an enrollment DASR for an active electric service account is submitted for the Company Consolidated billing option known as Bill Ready and the account is currently involved in the Company's summary billing program, the DASR will be rejected until the Company's information system has the capability to accept such DASRs. In order for an enrollment DASR to be accepted for a summary billing account, the Certified Supplier must submit the DASR with a billing option for either separate billing by the Company and the Certified Supplier or the Company Consolidated billing option known as Rate Ready.
- (e) If an enrollment DASR for an active electric service account is submitted for the Company Consolidated billing option known as Bill Ready and the account is currently involved in the Company's adjusted due date program, the DASR will be rejected until the Company's information system has the capability to accept such DASRs. In order for an enrollment DASR to be accepted for an account with an adjusted due date, the Certified Supplier must submit the DASR with a billing option for either separate billing by the Company and the Certified Supplier or the Company Consolidated billing option known as Rate Ready.

For the purpose of switching rules, customers are divided into three categories; Residential End-use Customers, Nonmercantile Customers, and Mercantile Customers. Residential End-use Customers are customers who use electricity for residential purposes. Nonmercantile Customers are defined as customers who use electricity for nonresidential purposes, consume less than 700,000 kWh of electricity per year and are not part of a national account involving multiple facilities in one or more states. Mercantile Customers are customers who use electricity for nonresidential purposes, consume greater than or equal to 700,000 kWh of electricity per year or are part of a national account involving multiple facilities in one or more states.

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SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

Residential End-use Customers and Nonmercantile Customers, pursuant to Commission rules, have the right to rescind an enrollment. Any Residential End-use Customer or Nonmercantile Customer enrollment, either with a Certified Supplier or with the Company, may be rescinded by contacting the Company within seven days from the postmark date on the notice advising of the enrollment. When the Company receives notice of a rescission, the impending enrollment will be cancelled and the Residential End-use Customer or Nonmercantile Customer will remain with their current supplier.

End-use Customer Return to SSO Service

- (a) An End-use Customer's return to SSO service may be a result of End-use Customer choice, Certified Supplier default, termination of a Certified Supplier contract, opt out or termination of a governmental aggregation program, or Certified Supplier withdrawal.
- (b) An End-use Customer may contact the Company to return to the Company's SSO. The return to the SSO shall be conducted under the same terms and conditions applicable to an enrollment with a Certified Supplier. Thus, the Company will provide a rescission period consistent with the Commission's rules. Provided the End-use Customer has observed the applicable notification requirements and the Company has effectuated the request to return to the SSO twelve calendar days prior to the next regularly scheduled Meter Read Date, the End-use Customer will be returned to the SSO on the next regularly scheduled Meter Read Date.
- (c) Residential End-use Customers
 - i) Residential End-use Customers are not subject to a minimum stay.
 - ii) If a Residential End-use Customer's Certified Supplier defaults or the Residential End-use Customer opts out of a governmental aggregation program, the Residential End-use Customer will return to the Company's SSO and may switch to another Certified Supplier at any time. A Residential End-use Customer opting out of a governmental aggregation program must contact and inform the Company of the "opt out".
 - iii) The Residential End-use Customer will be mailed a letter the day following the successful processing of a DASR returning the Residential End-use Customer to the Company.
- (d) Non-Mercantile Customers
 - i) Non-Mercantile Customers are not subject to a minimum stay.

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SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

- ii) If a Nonmercantile Customer returns to the Company, the Nonmercantile Customer is placed on the SSO. The Nonmercantile Customer will be mailed a letter the day following the successful processing of a DASR returning the Nonmercantile Customer to the Company.

(e) Mercantile Customers

- i) Mercantile Customers are not subject to a minimum stay.
- ii) If a Mercantile Customer returns to the Company, the Mercantile Customer is placed on the SSO. The Mercantile Customer will be mailed a letter the day following the successful processing of a DASR returning the Mercantile Customer to the Company.

5. Certified Supplier Defaults

If a Certified Supplier defaults, the Company will notify the customers of the default. However, service to the affected customers will not be interrupted due to the default. The customers involved will return to the Company's Standard Offer Rate on their next regular scheduled meter read date, unless there is sufficient time to choose an alternative supplier.

6. Certified Supplier Drops Customer

If the Certified Supplier decides to discontinue service to a customer, the Certified Supplier will notify the customer in accordance with Commission rules and submit a Drop DASR to the Company at least twelve (12) calendar days in advance of the requested drop date, which will be the next regular scheduled meter read date. The Company will notify the customer when a Drop DASR is received.

7. Requests for Customer Specific Usage Information

A customer or a Certified Supplier, acting as the customer's authorized agent, may request specific usage information. The customer specific usage request will include twelve (12) months of historical data (if available) including monthly kWh usage, meter read dates, and associated monthly maximum demand history, if applicable.

This information will be provided to the customer or the Certified Supplier, acting as the customer's authorized agent, free of charge.

If the customer requests monthly Interval Metering data, the customer will be required to pay the charge specified on the tariff Sheet No. 95 "Meter Data Charges." Charges to Certified Suppliers for Interval Meter data are specified in P.U.C.O. Electric No. 20.

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SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)**8. Customer Aggregation**

Customers may be aggregated for purposes of negotiating the purchase of Competitive Retail Electric Services from a Certified Supplier. Customer aggregation is not restricted by the class of customer within an aggregated group. Accordingly, any customer may be represented by an aggregator. However, an aggregator is not a customer, but rather an agent for aggregated customers. Each aggregated customer will be treated as an individual customer of the Company for billing purposes under their otherwise applicable rate schedules. Combination of meter registrations of aggregated customers will not be permitted. No charge of a tariff service will be affected by a customer's aggregation status, and aggregation of load cannot be used for qualification under a tariff.

9. Bill Payment Option

A Certified Supplier must notify the Company which billing option is being chosen for its customers: (1) Company Consolidated billing or (2) separate billing by the Company and the Certified Supplier. When the Company Consolidated billing option is selected, the customer will receive one bill from the Company, which will include both the Company's and the Certified Supplier's charges stated separately. The customer is responsible for payment in full to the Company for both the Company and Certified Supplier charges when the Company performs consolidated billing. The billing option must be identified at the time the enrollment DSR is submitted to the Company. Regardless of the billing option selected by the Certified Supplier, the customer may still choose to have budget billing for bills rendered by the Company.

For customers who have a maximum annual peak demand greater than or equal to 200 kW for the most recent twelve (12) month period, the required Interval Metering will be used to support the Certified Suppliers' billing options. If a customer has a maximum annual peak demand less than 200 kW and the Company must install special metering to support a Certified Supplier's billing option, the customer will be responsible for the incremental costs of upgrading the present meter plus all costs associated with the installation of that metering equipment. The charges for an Interval Meter will be at the tariffed rate, which may be paid over a period not to exceed twenty-four (24) months.

If the Company is providing the consolidated bill option for the Certified Supplier, the Company will remit payments received for Certified Supplier charges including the associated taxes to the Certified Supplier.

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SECTION III - CUSTOMER CHOICE ENROLLMENT AND PARTICIPATION GUIDELINES (Contd.)

All billed charges are grouped into categories and a payment priority is established for each. If a partial payment is received, the Company will apply the following payment priorities classification. Payments will be applied first to prior gas and electric Regulated Utility Charges, second to current gas and electric Regulated Utility Charges, third to prior electric Certified Supplier charges and gas supplier charges (if applicable), fourth to current electric Certified Supplier charges and gas supplier charges (if applicable), and then on a pro-rata basis for non-regulated products and services. When the priority classification is equal, payments will be applied to the oldest receivables first.

If the dual bill option is chosen, the customer will receive separate bills from the Company and the Certified Supplier for their respective charges. The Company and Certified Supplier shall be individually responsible for the collection of their respective charges.

Regardless of the bill option chosen by the Certified Supplier, customers who fail to pay in full their Regulated Utility Charges to the Company will be subject to the Company's late payment charge policy as it applies to those Regulated Utility Charges. The customer will also be subject to the rules and regulations governing the credit, collection and disconnection procedures in accordance with Sections 4901:1-17 and 4901:1-18 of the Ohio Administrative Code.

The Certified Supplier is ultimately responsible for the collection of any unpaid charges for services provided by them, as well as for developing their own credit and collection policies. However, in the course of following its collection procedures for Regulated Utility Charges, the Company may inform customers of such arrearages. In accordance with the rules and regulations governing the credit, collection and disconnection procedures specified in Sections 4901:1-17 and 4901:1-18 of the Ohio Administrative Code, the Certified Supplier may not physically disconnect customers for non-payment of Certified Supplier charges.

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BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to)	
Establish a Standard Service Offer)	
Pursuant to Section 4928.143, Revised	)	Case No. 17-1263-EL-SSO
Code, in the Form of an Electric Security)	
Plan, Accounting Modifications and)	
Tariffs for Generation Service.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Amend	)	Case No. 17-1264-EL-ATA
its Certified Supplier Tariff, P.U.C.O. No.)	
20.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Defer	)	Case No. 17-1265-EL-AAM
Vegetation Management Costs.)	

PUBLIC VERSION

DIRECT TESTIMONY OF

CICELY M. HART

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 1, 2017

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION.....	1
II. DUKE ENERGY OHIO'S ELECTRIC DISTRIBUTION SYSTEM.....	2
III. EXISTING RIDER DCI AND NEW PROGRAMS.....	6
IV. CONCLUSION.....	16

Attachments:

CMH-1	Rider DCI Annual Capital Costs
CMH-2	Importance of Grid Support to Customers – J.D. Power V3

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Cicely Marie Hart, 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 A. I am employed by Duke Energy Business Services LLC (DEBS), with the title
6 Director of Distribution Design. DEBS provides various administrative and other
7 services to Duke Energy Ohio, Inc., (Duke Energy Ohio or the Company) and
8 other affiliated companies of Duke Energy Corporation (Duke Energy).

9 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND**
10 **PROFESSIONAL EXPERIENCE.**

11 A. I received a Bachelor of Science Degree in Electrical Engineering from Purdue
12 University and a Master's Degree in Business Administration from Indiana
13 Wesleyan University. I am also a registered Professional Engineer in Indiana and
14 Ohio. I began my career at Cinergy Corp., as a System Protection Engineer in
15 2001, and have held a variety of positions of increasing responsibility across
16 Duke Energy in the areas of transmission and distribution engineering.

17 **Q. PLEASE DESCRIBE YOUR DUTIES AS DIRECTOR OF DISTRIBUTION**
18 **DESIGN ENGINEERING.**

19 A. In my current role, I am responsible for the distribution integrity programs for
20 Duke Energy's regulated utility operations in Ohio and Kentucky. I am also
21 responsible for engineering and design for line extensions for new businesses in
22 the Duke Energy Ohio and Duke Energy Kentucky, Inc., service territories.

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

3 A. No.

4 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE**
5 **PROCEEDINGS?**

6 A. The purpose of my testimony is to discuss Duke Energy Ohio's distribution
7 system and to explain the need for continuation of Rider Distribution Capital
8 Investment (Rider DCI). To do so, I will first provide an overview of how Duke
9 Energy Ohio maintains the reliability of its distribution system and the
10 investments necessary to continue to provide safe, reliable, and reasonably priced
11 service. I also will discuss the challenges the Company faces in maintaining its
12 distribution system, including the current initiatives the Company will undertake
13 to maintain the safety and integrity of its infrastructure.

II. DUKE ENERGY OHIO'S ELECTRIC
 DISTRIBUTION SYSTEM

14 **Q. PLEASE BRIEFLY DESCRIBE DUKE ENERGY OHIO'S EXISTING**
15 **ELECTRIC DISTRIBUTION INFRASTRUCTURE.**

16 A. The Duke Energy Ohio electric delivery system provides electric service to
17 approximately 700,000 customers located throughout southwestern Ohio. Duke
18 Energy Ohio owns and operates all of its electric distribution and local
19 transmission facilities.

20 Duke Energy Ohio's electric delivery system includes approximately 229
21 substations, 11 transmission substations (locations with 69 kilovolt (kV) or higher
22 operating voltages) having a combined capacity of approximately 8,923,438

1 kilovolt-amperes (kVA), 187 distribution substations (locations that supply one or
2 more circuits at 35 kV or lower voltage) having a combined capacity of
3 approximately 6,795,371 kVA, and 31 joint transmission and distribution
4 substations (locations with 69 kV or higher operating voltages that also have 35
5 kV or lower voltage) having a combined capacity of approximately 7,297,320
6 kVA. The Duke Energy Ohio electric delivery system includes various other
7 equipment and facilities, such as control rooms, computers, capacitors, street
8 lights, meters and protective relays, and telecommunications equipment and
9 facilities.

10 **Q. PLEASE GENERALLY DESCRIBE HOW THE ELECTRIC**
11 **DISTRIBUTION INFRASTRUCTURE IS DESIGNED, CONSTRUCTED,**
12 **MANAGED, AND OPERATED.**

13 A. The electric distribution infrastructure is designed to receive bulk power at
14 transmission voltages, reduce the voltage to 34.5 kV, 12.5 kV, or 4 kV, and deliver
15 power to customers' premises. The distribution infrastructure generally consists of
16 substation power transformers, switches, circuit breakers, wood pole lines,
17 underground cables, distribution transformers, and associated equipment. The
18 physical design of the distribution system is also generally governed by the National
19 Electrical Safety Code, which I understand has been adopted by the state of Ohio in
20 Ohio Administrative Code (O.A.C.) 4901:1-10-06.

21 Duke Energy Ohio operates the distribution facilities it owns in accordance
22 with good utility practice. Duke Energy Ohio continuously runs the system with a
23 workforce that provides customer service 24 hours per day, 7 days per week, 365

1 days per year, and includes trouble response crews. The Company monitors outages
2 with various systems, such as Supervisory Control and Data Acquisition,
3 Distribution Outage Management System, and Electric Trouble Data Mart.

4 **Q. PLEASE GENERALLY DESCRIBE HOW DUKE ENERGY OHIO**
5 **CURRENTLY MONITORS AND MAINTAINS ITS DISTRIBUTION**
6 **INFRASTRUCTURE AND ITS PERFORMANCE.**

7 A. Duke Energy Ohio maintains its distribution infrastructure in accordance with good
8 utility practice by adhering to inspections, monitoring, testing, and periodic
9 maintenance programs. Examples of these existing programs include, but are not
10 limited to, the following: (1) substation inspection program; (2) line inspection
11 program; (3) ground-line inspection and treatment program; (4) vegetation
12 management program; (5) underground cable replacement program; (6) capacitor
13 maintenance program; and (7) dissolved gas analysis.

14 Duke Energy Ohio also uses various reliability indices to measure the
15 effectiveness of its maintenance programs and system reliability. The Company
16 complies with the Public Utilities Commission of Ohio's (Commission) Electric
17 Service and Safety Standards, as set forth in O.A.C. Chapter 4901:1-10.

18 **Q. YOU STATED THAT DUKE ENERGY OHIO USES VARIOUS INDICES**
19 **TO MEASURE THE EFFECTIVENESS OF ITS MAINTENANCE**
20 **PROGRAMS AND SYSTEM RELIABILITY. PLEASE EXPLAIN THESE**
21 **RELIABILITY INDICES.**

22 A. Reliability indices are generally recognized standards for measuring the number,
23 scope, and duration of outages. Ohio requires electric distribution utilities to report

1 annually on these reliability indices. These indices are defined as follows:

- 2 • System Average Interruption Frequency Index (SAIFI) is the system average
3 frequency index and represents the average number of interruptions per
4 customer. SAIFI is expressed by the total number of customer interruptions
5 divided by the total number of customers served.
- 6 • Customer Average Interruption Duration Index (CAIDI) is the average
7 interruption duration or average time to restore service per interrupted
8 customer and is expressed by the sum of the customer interruption durations
9 divided by the total number of customer interruptions.

10 **Q. HOW HAS DUKE ENERGY OHIO'S DISTRIBUTION INFRASTRUCTURE**
11 **PERFORMED RELATIVE TO THESE RELIABILITY INDICES?**

12 A. Historically, the Company's system has performed very well relative to these
13 indices. Indeed, Duke Energy Ohio has generally met its reliability commitments,
14 whether borne out of SmartGrid proceedings or Commission regulations. However,
15 there was slight deviation with regard to one of the reliability indices – CAIDI – in
16 2016, which deviation was confirmed at the end of March 2017. Factors contributing
17 to this deviation include the system improvements presently being made pursuant to
18 the approved distribution infrastructure plan under Rider DCI. The installation of
19 electronic sectionalization devices improves customers' reliability by minimizing the
20 impact of an outage. All else equal, the installation of these devices improves both
21 SAIFI and SAIDI, but has the reverse effect on CAIDI. As long as electronic
22 sectionalization devices continue to be installed, the CAIDI metric will continue to
23 be negatively impacted. Due to the continued focus of reducing an outage footprint

1 through the installation of electronic sectionalizing devices, the CAIDI standard
2 should either be increasing, or disregarded.

III. EXISTING RIDER DCI AND NEW PROGRAMS

3 **Q. PLEASE DESCRIBE RIDER DCI.**

4 A. Rider DCI was approved by the Commission in the Company's last electric
5 security plan case.¹ The purpose of Rider DCI is to allow the Company to
6 maintain the safety and reliability of its delivery system, recover a return of and
7 on incremental capital investment in electric distribution plant, and recover the
8 associated property tax and depreciation expenses. In summary, the rider recovers
9 the Company's revenue requirement for distribution capital investment, including,
10 but not limited to ongoing maintenance capital, as well as the cost to implement
11 various specific programs or initiatives designed to harden and maintain the safety
12 and reliability of the Company's distribution system. Rider DCI also recovers
13 incremental revenue requirement on other plant necessary for the safe and reliable
14 operation of the Company's electric distribution system.

15 The programs implemented under the distribution capital investment plan
16 are designed to, among other things, manage costs and proactively address the
17 aging infrastructure issues through a targeted and coordinated approach. Programs
18 within Rider DCI include work that is accounted for in FERC accounts 360 to
19 374. In ESP III, the Commission recognized that the Company "is correct to

¹ *In the Matter of the Application of Duke Energy Ohio for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service*, Case No. 14-841-EL-SSO, *et al.*, Opinion and Order, at pp. 71-72 (April 2, 2015)(hereinafter, ESP III).

1 aspire to move from a reactive to a more proactive maintenance program.”² The
2 Commission further recognized that “it is detrimental to the state’s economy to
3 require the utility to be reactionary or allow the performance standards to take a
4 negative turn before we encourage the EDU to proactively and efficiently replace
5 and modernize infrastructure... .”³ Consistent with this view, Duke Energy Ohio
6 seeks to continue its important distribution capital investment plan and to remain
7 aligned with its customers in respect of reliability and power quality expectations.

8 **Q. PLEASE DISCUSS THE WORK THAT HAS BEEN ACCOMPLISHED**
9 **UNDER RIDER DCI AND WHY IT IS IMPORTANT TO CONTINUE THE**
10 **RIDER.**

11 A. Improving reliability involves a long-term effort with many elements that
12 contribute to overall success. Reliability is dynamic and must be dealt with
13 continuously and with sustained effort. Without constant management and
14 investment, the system may unintentionally decline or deteriorate. Additionally,
15 system reliability can be influenced by factors such as weather, vegetation
16 management, aging infrastructure, and ongoing maintenance. Even though major
17 storm events are excluded from utility reliability metrics, an increase in non-major
18 storms will also impact the outcomes of the indices. However, Duke Energy
19 Ohio’s comprehensive approach envisions continuous improvement to address
20 these ongoing threats.

21 Since Rider DCI was approved, the Company has made a significant
22 investment in its distribution infrastructure, including, but not limited to,

² Id., at p.71.

³ Id.

1 underground cable replacement, deteriorated conductor, and pole replacement
2 programs. As explained when Rider DCI was initially proposed, these efforts
3 impact the system as a whole and undoubtedly contribute to measurable
4 performance factors. However, it is not possible to attribute any one of these
5 elements to any specific result. Rather, the Company's efforts serve to maintain
6 the integrity of existing infrastructure, and to harden the system, as an overall
7 approach, serve to avoid decline of the system.

8 **Q. WHY SHOULD RIDER DCI BE CONTINUED?**

9 A. Rider DCI encompasses a collection of distribution reliability programs (both new
10 programs and enhancements to existing programs) that were discussed in detail in
11 the Company's ESP III case. Consistent with the intent of Rider DCI, which is to
12 allow the Company to proactively address reliability issues through a coordinated
13 and targeted strategy, the Company anticipated that Rider DCI would continue to
14 evolve, with technological advances or changes in field conditions, to include
15 additional programs or revisions and modifications to the initial programs over
16 time.

17 Rider DCI should persist in order to allow the Company to continue to
18 proactively maintain and harden its distribution grid and to invest in equipment
19 and technology that improve the customer experience by, among other things,
20 reducing outages or reducing their length. In 2016, the Company was able to
21 invest in a program to inject over 1 million feet of underground cable (essentially
22 extending its life another 20 years at a fraction of replacement costs). More than
23 1,800 distribution poles were replaced and over 28,000 feet of small conductor

1 wire was replaced, mainly because of age and unreliability, but also in
2 anticipation of complete failure.

3 In order to continue this important work and to support the Company's
4 efforts to maintain and improve aging infrastructure, Rider DCI should be
5 perpetuated. There can be no doubt that such an effort involves investment. The
6 Company strives to ensure that the investments it proposes are balanced with
7 results achieved to ensure that customers experience the reliability they expect
8 and demand, without undue cost. Balancing the customers' expectations and the
9 shareholders' financial needs is challenging for the both the Company and the
10 Commission, but it is a balance that must be maintained in the interests of all
11 stakeholders.

12 **Q. IS THE COMPANY PROPOSING TO CONTINUE THE EXISTING**
13 **PROGRAMS UNDER RIDER DCI?**

14 A. Yes. The programs under Rider DCI continue to provide the benefits relevant to
15 the initial approval of the rider. Among other things, these programs allow the
16 Company to replace aging poles and other equipment, thereby reducing their risk
17 of failure and possible outages for customers. Additionally, identifying and
18 replacing underground cable will minimize the number of cable failures that cause
19 longer durations due to fault locating and equipment needed for repair. The
20 Company continues to believe it a best practice to proactively invest in updating
21 its aging infrastructure.

1 **Q. IS THE COMPANY CURRENTLY PROPOSING ANY NEW PROGRAMS**
2 **FOR INCLUSION IN ITS DISTRIBUTION CAPITAL INVESTMENT**
3 **PLAN?**

4 A. Yes. The Company proposes to include additional programs in its overall
5 distribution capital investment plan, with cost recovery through Rider DCI.
6 Attachment CMH-1 is a detailed analysis of the forecasted costs under the
7 Company's distribution capital investment program that includes the two new
8 programs. Company witness William Don Wathen Jr. addresses estimated
9 customer impacts.

10 **Q. PLEASE DISCUSS THE NEW PROGRAMS THAT THE COMPANY**
11 **INTENDS TO INCLUDE IN ITS DISTRIBUTION CAPITAL**
12 **INVESTMENT PROGRAM.**

13 A. I will address two new programs intended to transform the Company's
14 distribution grid and that the Company intends to include in Rider DCI. The two
15 programs are Self-Optimizing Grid and Targeted Undergrounding, both of which
16 will improve the customer's electricity experience and are thus consistent with
17 what is understood to be the objectives of the Commission's recently announced
18 PowerForward Initiative. Company witnesses Donald L. Schneider, Retha
19 Hunsicker, and Zachary Kuznar discuss other programs intended for inclusion in
20 Rider DCI.

1 **Q. PLEASE DESCRIBE THE SELF-OPTIMIZING GRID AND ITS**
2 **PURPOSE AND ANTICIPATED BENEFITS.**

3 A. As customers expect more from the Company, it must invest in the grid to provide
4 ever-improving service. Duke Energy Ohio will utilize technology that supports
5 faster restoration, effectively decreasing the inconveniences of its customers.
6 With this program, the Company is moving from a static grid that may employ
7 pre-determined solutions to a self-optimizing grid that anticipates failures and
8 mitigates them by finding the most efficient real-time solution to restore
9 customers. The difference between static and dynamic is the use of the real-time
10 loading to determine and execute real time solutions. The new grid will use
11 automation and intelligence to manage itself and maximize the reliability
12 customers experience in real time.

13 Today the Company's system is constructed for one-way power flow in a
14 radial design with limited ability to integrate renewable energy. The term self-
15 optimizing grid refers to a series of interconnected distribution circuits that allow
16 for smaller amounts of customers to be affected by faults on the system and
17 shorter duration of outages when those faults occur. It bears a relationship to and
18 complements the Company's earlier investment in self-healing "teams," however,
19 this is an even more integrated and "real time" response that represents the next
20 level of "smart" operation. Self-optimizing grid investments seek to: 1) Increase
21 system "connectivity" by building more circuit ties that allow for more flexibility
22 in restoration options. By tying more circuits together, the system will shift from a
23 radial design to more of a "spider web" design, 2) Increase "capacity" by

1 installing larger wires, transformers and system banks to be able to handle
2 dynamic switching and increased two-way power flow from adjacent circuits and
3 renewable generation, 3) Increase “control” through additional system automation
4 and intelligence. Increased automation and intelligence is becoming a necessary
5 requirement to manage an increasingly dynamic system.

6 With increased connectivity, capacity, and control, the Company will have
7 an increasingly more resilient system with greater flexibility in restoration
8 options. Instead of having circuit pairs that can back each other up, the network
9 allows for multiple options to re-energize circuit segments. With a fully functional
10 self-optimizing grid, more than 80 percent of Duke Energy Ohio’s customers will
11 benefit from these options and rarely see a sustained outage. The Company has
12 budgeted approximately \$■ million annually to provide automation and control
13 with the installation of electronic devices for the next six years.

14 **Q. PLEASE DESCRIBE THE TARGETED UNDERGROUNDING**
15 **PROGRAM AND ITS PURPOSE AND ANTICIPATED BENEFITS.**

16 A. Duke Energy Ohio’s electrical network contains approximately 15,000 miles of
17 overhead distribution lines. These lines contain both backbone feeder conductors,
18 which carry power from electrical substations to neighborhoods, and tap lines
19 (smaller wires) that distribute power throughout those neighborhoods. Duke
20 Energy Ohio will select a subset of these smaller overhead lines to implement
21 targeted undergrounding. Targeted Undergrounding is the name for a program
22 whereby Duke Energy Ohio proposes to select specific problem areas and replace
23 overhead wires with underground cables in an effort to harden the system, thereby

1 increasing overall reliability. Underground installations carry less exposure to
2 environmental factors that often cause electrical faults. The Targeted
3 Undergrounding program will use a data-driven process that leverages multi-year
4 outage history data to look for overhead line segments with a consistent pattern of
5 outlier performance compared to other overhead facilities. Once located,
6 engineers will overlay this information with where vegetation management is
7 most costly and where the Company has limited access for its trucks, which drives
8 up restoration costs and increases employee risks. Targeted Undergrounding will
9 also be used to address infrastructure that is nearing its end of design life. Instead
10 of rebuilding the system with “like for like,” this program proposes to uplift
11 facilities, bringing them up to current standards, many of which address reliability
12 gaps. Undergrounding overhead tap lines may reduce the frequency and duration
13 of outages for Duke Energy Ohio customers, especially in areas that historically
14 see the most damage in major storms. Restoration in other areas can be
15 accomplished faster due to the material reduction in outage events for these
16 outlier segments of overhead facilities. Faster restoration means life returns to
17 normal more quickly for Duke Energy Ohio’s customers, decreasing the
18 economic impact major storms can have. This program also allows for vegetation
19 management resources to be reallocated to benefit all customers. The Company
20 has budgeted \$■ million in 2018, \$■ million in 2019, \$■ million in 2020, and
21 \$■ million per year in 2021 through 2024 on this program.

1 **Q. WHY ARE THESE ADDITIONAL PROGRAMS NECESSARY?**

2 A. Programs in Rider DCI are designed to maintain the integrity of the overall
3 distribution system and, to the extent possible, are also designed to enhance
4 service to Duke Energy Ohio customers. Duke Energy Ohio engages in a plan of
5 continuous improvement of its distribution grid and these programs represent two
6 very vital additions to the Company's efforts to provide safe, affordable, and
7 reliable service to customers. Hence the need to continue and expand Rider DCI.

8 **Q. ARE THE PROGRAMS THAT YOU DESCRIBE AND AS DISCUSSED IN**
9 **THE TESTIMONY OF OTHER COMPANY WITNESSES REFERENCED**
10 **ABOVE THE ONLY PROGRAMS TO BE INCLUDED IN THE**
11 **COMPANY'S DISTRIBUTION CAPITAL INVESTMENT PLAN AND**
12 **RIDER DCI?**

13 A. Just as was anticipated prior to the initial approval of Rider DCI, the plan will
14 continue to evolve. Indeed, whether due to technological advances, changes in
15 field conditions, and or security considerations, the Company must be able to
16 adapt and revise or modify programs intended for inclusion, or incorporate new
17 programs, under Rider DCI. This flexibility in respect of the distribution capital
18 investment program, which may include a shifting of dollars, will enable the
19 Company to efficiently incorporate new or refined technologies while
20 appropriately responding to customer expectations.

21 **Q. WHAT IS THE ANTICIPATED IMPACT TO THE COMPANY'S**
22 **CURRENT RELIABILITY AND PERFORMANCE THROUGH THE**
23 **PLANS PROPOSED FOR INCLUSION UNDER RIDER DCI?**

1 A. Although Duke Energy Ohio cannot guarantee that system reliability or customer
2 satisfaction will improve in terms of specific reliability index scores or a
3 particular level of performance from implementing its infrastructure improvement
4 plans, doing nothing is sure to erode both. There are factors that impact the
5 Company's reliability that are simply beyond its control, such as the frequency
6 and severity of major storms. Nonetheless, the programs selected by the Company
7 are designed to address those issues that are predictable and controllable, such as
8 replacement of obsolete and aging infrastructure that becomes less reliable as it
9 approaches the end of its useful life. Proactively addressing vulnerable spots on
10 the distribution system is the most effective way to maintain reliability and to
11 provide benefits to customers.

12 **Q. PLEASE SUMMARIZE THESE CUSTOMER BENEFITS.**

13 A. By implementing a series of programs under Rider DCI, the Company is better
14 able to manage and control its costs and its workforce resources, allowing for
15 more efficient processes. Updating, automating, and replacing the Company's
16 aging distribution equipment enables greater resiliency in the system. Because
17 many of the programs included in Rider DCI are implemented throughout the
18 Company's service territory, ultimately every customer benefits from efficiencies
19 and system hardening. Rider DCI programs allow Duke Energy Ohio to take a
20 holistic, coordinated approach to addressing these identified areas of concern, in
21 contrast to a reactive strategy.

1 **Q. DOES THE WORK THAT IS BEING ACCOMPLISHED WITH RESPECT**
2 **TO RIDER DCI PROPERLY ALIGN WITH CONSUMER INTERESTS?**

3 A. Yes. Customer satisfaction is very important to Duke Energy Ohio. Moreover, it
4 is my understanding that the Commission has initiated the PowerForward
5 program to enhance the customer experience. Duke Energy Ohio is proposing to
6 continue the existing programs previously approved for inclusion in Rider DCI
7 along with new programs intended to provide additional enhancements and
8 updates to the distribution system to enable programs and efficiencies that will
9 further align with customer expectations and interests.

10 **Q. PLEASE DISCUSS HOW THE COMPANY ENSURES ALIGNMENT**
11 **WITH CUSTOMER EXPECTATIONS.**

12 A. The Company subscribes to results obtained by J.D. Power to obtain information
13 regarding customer satisfaction. CMH-2, attached to my testimony provides
14 important results provided by J.D. Power that demonstrate that both residential
15 and commercial customers highly value power quality and reliability. This
16 indicates that the Company's work to harden and improve its distribution system
17 is of value to customers and important to the overall improvement of the customer
18 experience.

IV. CONCLUSION

19 **Q. WERE ATTACHMENTS CMH-1 AND CMH-2 COMPILED BY YOU OR**
20 **UNDER YOUR SUPERVISION?**

21 A. Yes.

1 **Q. IS THE INFORMATION CONTAINED IN ATTACHMENTS CMH-1 AND**
2 **CMH-2 TRUE AND ACCURATE TO THE BEST OF YOUR**
3 **KNOWLEDGE AND BELIEF?**

4 **A. Yes.**

5 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

6 **A. Yes.**

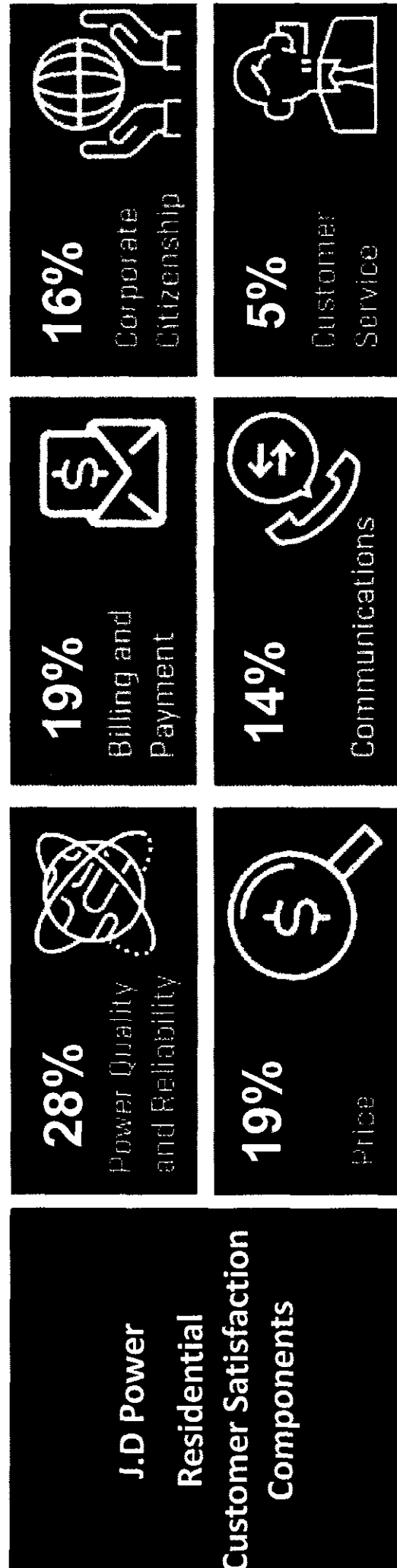
**Duke Energy Ohio, Inc.
Rider DCI Capital Forecast
in millions**

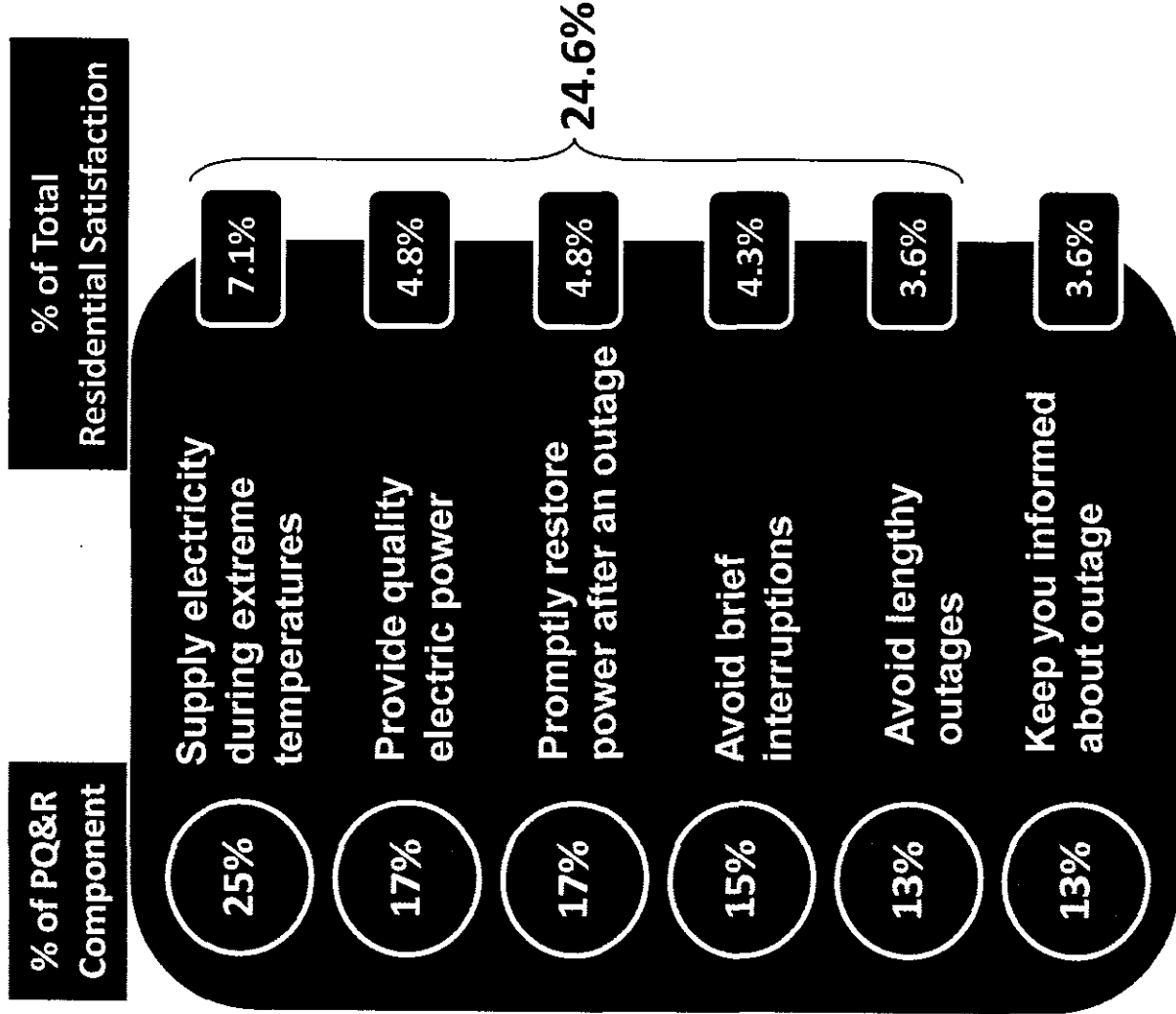
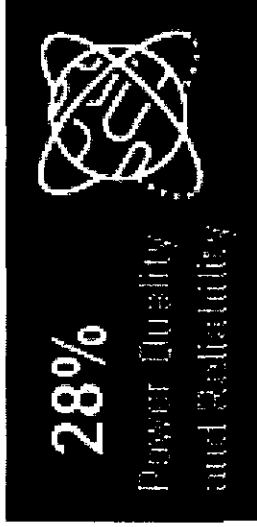
Line No.		2018	2019	2020	2021	2022	2023	2024
1	Targeted Underground							
2	Self Optimizing Grid							
3	System Capacity D/Connectivity							
4	Downtown Network							
5	Reliability/Integrity Programs							
6	4kV Conversion/Upgrade							
7	Retail capacity							
8	Danger Tree Removal							
9	Distribution Substations							
10	Advanced metering infrastructure (AMI): meters							
11	AMI Cisco connected grid routers (CGR)							
12	Battery technology							
13	Customer Connect (Customer Information System - CIS) (1)							
14	Transmission/Distribution Control Center (1)							
15	Common, general and intangible (1)							
16	Other							
17	Total	333	390	353	305	287	275	272

(1) represents residual costs not allocated to transmission function

J.D. Power Electric Utility Residential StudySM

- Residential customer satisfaction, as measured by J.D. Power, is the weighted average of six component index scores. The relative weight for each component is shown below.
- Respondents rate their utility on several elements per component (1-to-10 scale). The weighted average of these ratings make up the index score for each of the components.
- Question weights and component weights were statistically derived from regression analyses.



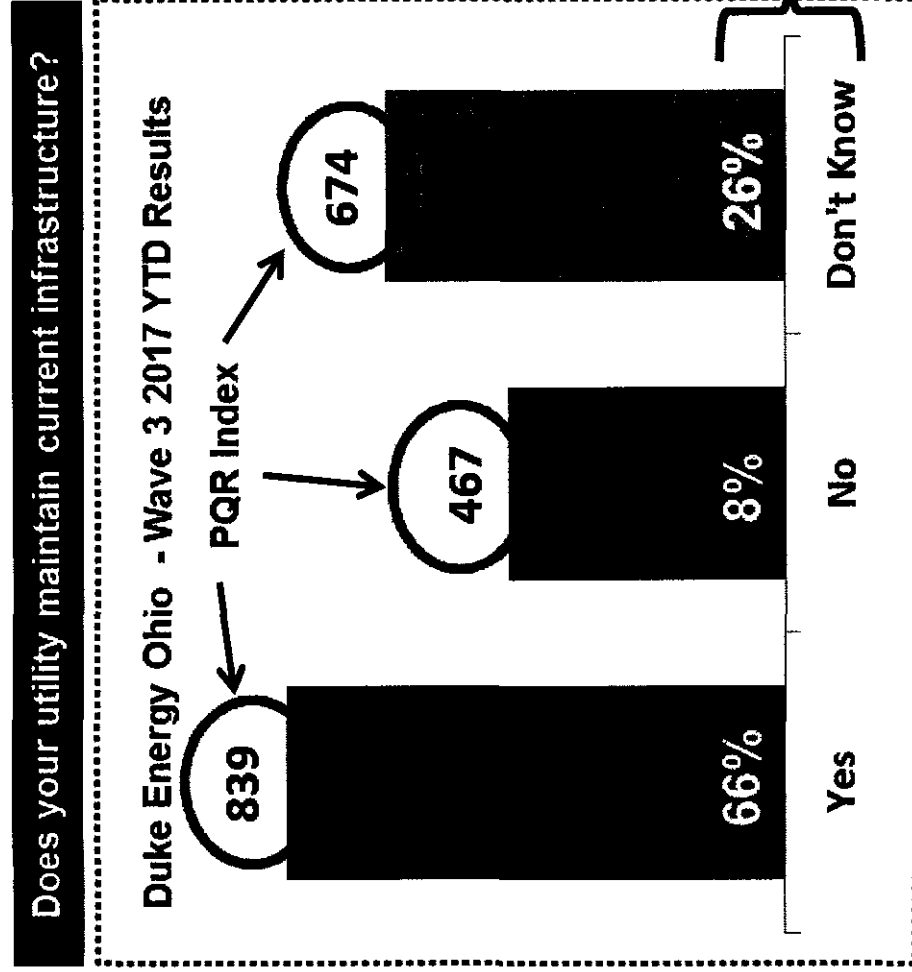


Importance of the Grid to Residential Customers

- The “Power Quality & Reliability” component accounts for 28% of overall customer satisfaction (*note rounding*).
- Five of the six ratings within the PQ&R component are directly related to the capacity and maintenance of the grid.
- These five ratings account for about 87% of the PQ&R factor, or 24.6% of overall customer satisfaction.
- It is not surprising that these grid elements are so important to customers, as this is essential to the electricity upon which they depend.

Maintains Current Infrastructure (%Yes)

2017 J.D. Power Electric Utility Residential Study – Wave 3 YTD

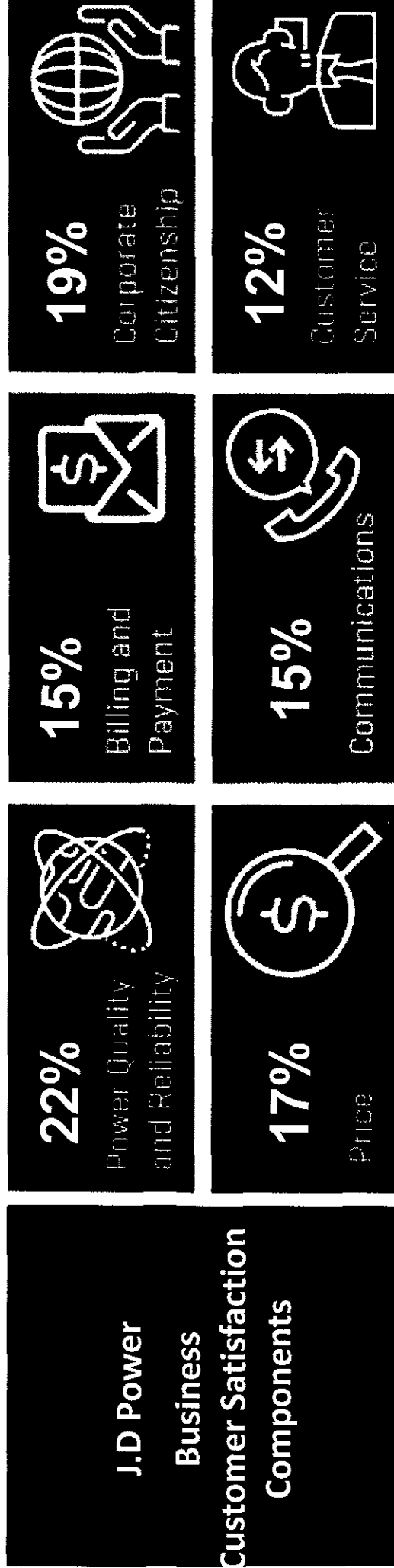


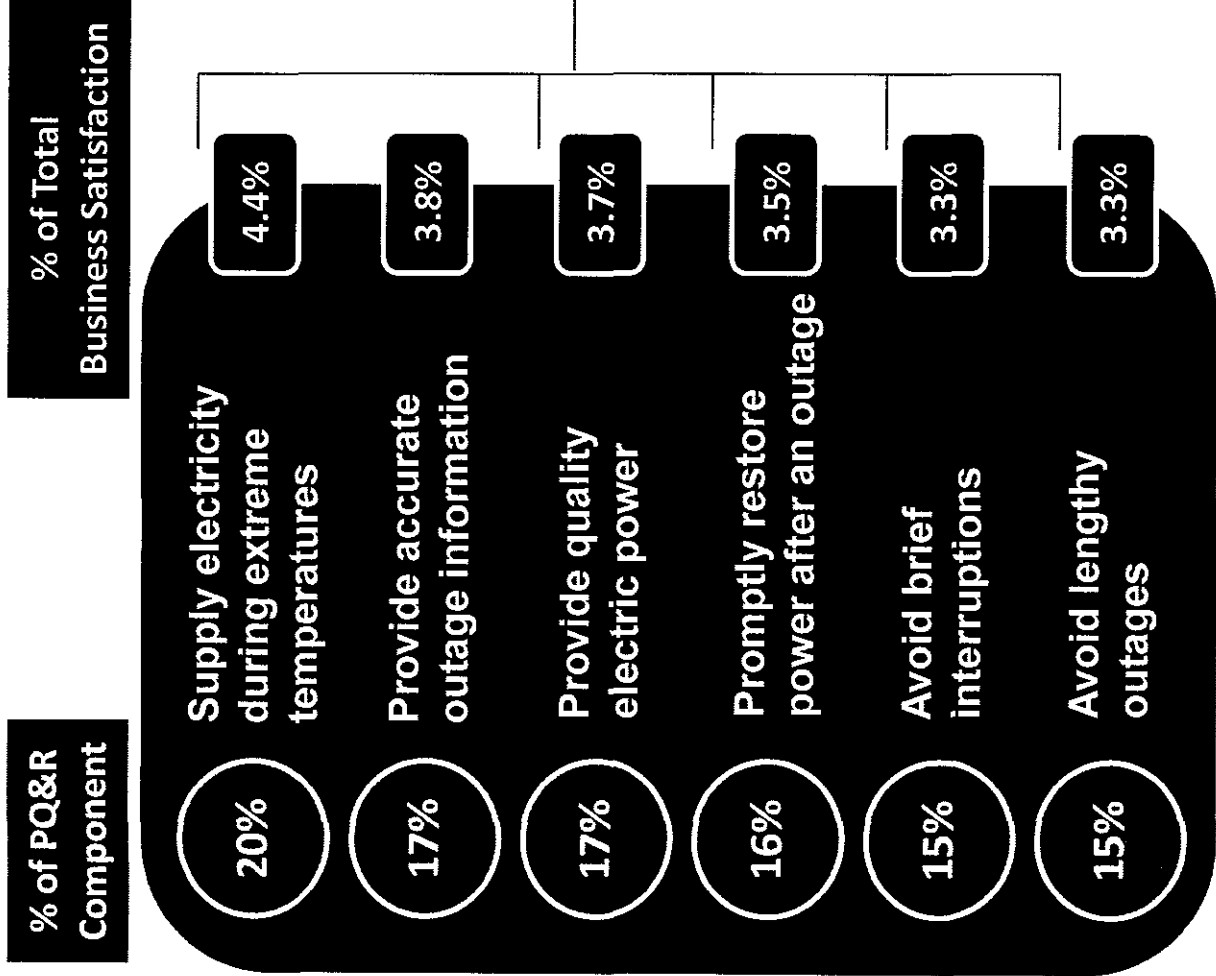
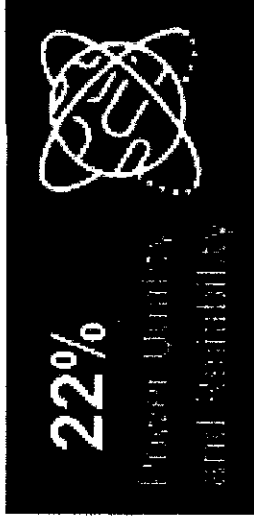
Importance of the Grid to Residential Customers

- 66% of Ohio customers are aware that Duke Energy maintains the utility infrastructure. They rate their PQ&R satisfaction 372 points higher than those who say it does not, and 165 points higher than those who say they do not know.
- This demonstrates the value customers place on maintenance of the grid.

J.D. Power Electric Utility Business StudySM

- Business customer satisfaction, as measured by J.D. Power, is the weighted average of six component index scores. The ratings and priorities of business customers differ somewhat from those of residential customers. Business customer weights for the six satisfaction components are shown below.



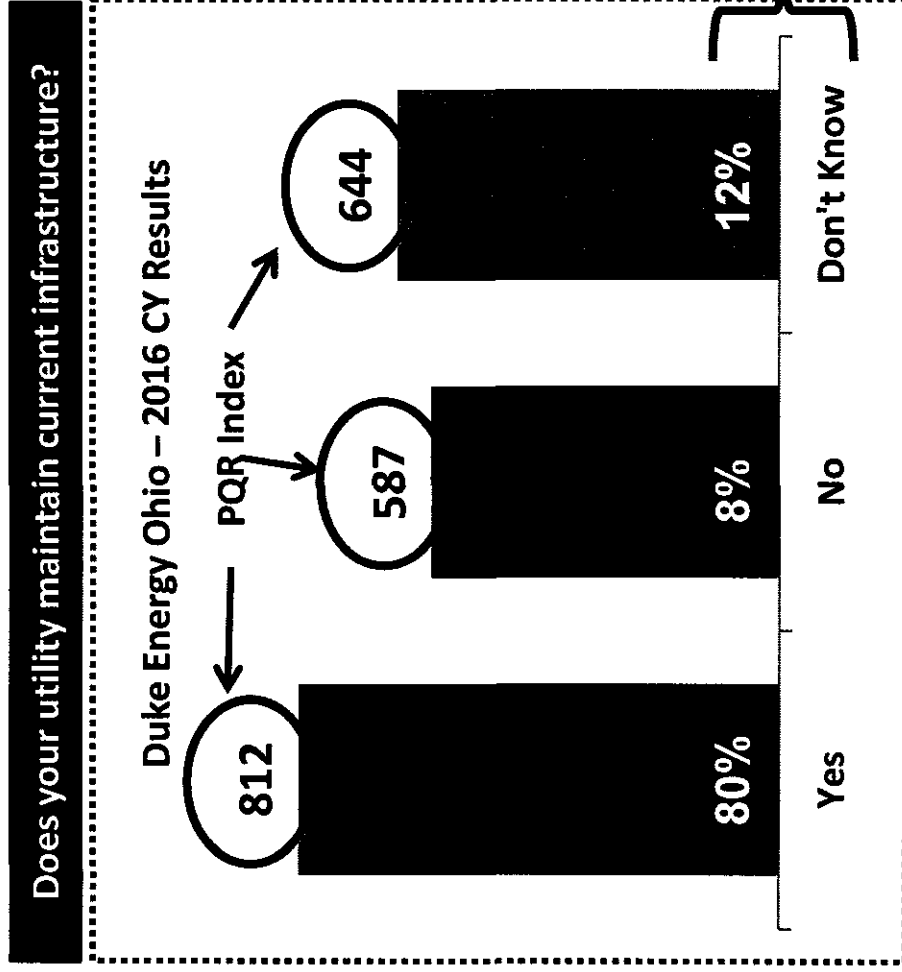


Importance of the Grid to Businesses Customers

- The “Power Quality & Reliability” component accounts for 22% of overall customer satisfaction. (*note rounding*)
- Five of the six ratings within the PQ&R component are directly related to the capacity and maintenance of the grid.
- These five ratings account for about 83% of the PQ&R component, or 18.2% of overall customer satisfaction.
- It is not surprising that these grid elements are so important to customers, as this is essential to the electricity upon which they depend.

Maintains Current Infrastructure (%Yes)

2016 Calendar Year J.D. Power Electric Utility Business Study



Importance of the Grid to Businesses

- 80% of Ohio business customers are aware that Duke Energy maintains the utility infrastructure. They rate their PQ&R satisfaction 225 points higher than those who say it does not, and 168 points higher than those who say they do not know.
- This demonstrates the value customers place on maintenance of the grid.

% of Business Customers answering each

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to)	
Establish a Standard Service Offer)	
Pursuant to Section 4928.143, Revised	)	Case No. 17-1263-EL-SSO
Code, in the Form of an Electric Security)	
Plan, Accounting Modifications and)	
Tariffs for Generation Service.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Amend	)	Case No. 17-1264-EL-ATA
its Certified Supplier Tariff, P.U.C.O. No.)	
20.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Defer	)	Case No. 17-1265-EL-AAM
Vegetation Management Costs.)	

DIRECT TESTIMONY OF

DONALD L. SCHNEIDER, JR.

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 1, 2017

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. BACKGROUND ON DUKE ENERGY OHIO'S AMI ENVIRONMENT.....	3
III. FUTURE STATE OF THE COMPANY'S AMI ENVIRONMENT	10
IV. BENEFITS OF THE PROPOSED AMI TRANSITION	13
V. COSTS OF THE PROPOSED AMI TRANSITION.....	15
VI. CONCLUSION	16

Attachment:

DLS-1: Ohio AMI Transition Analysis

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Donald L. Schneider, Jr., and my business address is 400 South Tryon
3 Street, Charlotte, North Carolina 28202.

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

5 A. I am employed by Duke Energy Business Services LLC (DEBS), as General
6 Manager, Advanced Metering Infrastructure (AMI) Program Management. DEBS
7 provides various administrative and other services to Duke Energy Ohio, Inc.,
8 (Duke Energy Ohio or Company) and other affiliated companies of Duke Energy
9 Corporation (Duke Energy).

10 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND**
11 **PROFESSIONAL EXPERIENCE.**

12 A. I received a Bachelor of Science Degree in Electrical Engineering from the
13 University of Evansville in 1986. After graduation, I was employed by Duke
14 Energy Indiana, Inc., (then known as Public Service Indiana) as an electrical
15 engineer. Throughout my career, I have held various positions of increasing
16 responsibility in the areas of engineering and operations, including distribution
17 planning, distribution design, field operations, and capital budgets. Prior to my
18 current role, I was General Manager, Midwest Premises Services, responsible for
19 managing all of Duke Energy's Midwest Premises Services and Meter Reading
20 departments. I was promoted to my current position in 2008.

1 **Q. ARE YOU A REGISTERED PROFESSIONAL ENGINEER?**

2 A. Yes. I have been registered as a professional engineer with the State Board of
3 Registration for Professional Engineers in the state of Indiana since 1995.

4 **Q. PLEASE DESCRIBE YOUR DUTIES AS GENERAL MANAGER, AMI**
5 **PROGRAM MANAGEMENT.**

6 A. As General Manager, AMI Program Management, my primary responsibility is
7 managing the project execution of AMI-related projects and AMI systems
8 operations for all Duke Energy jurisdictions. Prior to the merger between Duke
9 Energy and Progress Energy, I was responsible for managing the project execution
10 for both AMI and Distribution Automation (DA) deployments for all legacy Duke
11 Energy jurisdictions.

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

14 A. Yes. I have submitted pre-filed testimony and have testified before the Public
15 Utilities Commission of Ohio (Commission).

16 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE**
17 **PROCEEDINGS?**

18 A. I will begin by providing a background on Duke Energy Ohio's AMI. Then I will
19 describe the current state of the Company's AMI environment and some
20 challenges to that environment and explain how the Company plans to address
21 those challenges. Finally, I will discuss and quantify the benefits and costs
22 associated with the Company's AMI proposal.

II. BACKGROUND ON DUKE ENERGY OHIO'S CURRENT AMI ENVIRONMENT

1 **Q. WHAT IS AMI?**

2 A. AMI involves a two-way communication network between the utility and its
3 meters that is used to provide operational efficiencies and to enable customer
4 services not possible with metering programs involving walk-by or one-way
5 communications network (drive-by) readings.

6 **Q. DESCRIBE THE CURRENT AMI ENVIRONMENT FOR DUKE ENERGY**
7 **OHIO.**

8 A. Today, the Company has two AMI metering environments, which I will describe
9 as the node and mesh environments. The node environment is composed of
10 Echelon electric meters, Badger gas communication modules, and communication
11 nodes that were originally manufactured by Ambient, which has since been
12 acquired by Ericsson. The mesh environment is composed of Itron electric meters,
13 Itron gas communications modules, Itron range extenders, and Cisco Connected
14 Grid Routers (CGRs).

15 **Q. HOW DO COMMUNICATIONS WORK IN THE AMI NODE**
16 **ENVIRONMENT?**

17 A. Echelon electric meters communicate with nodes via two-way, low-voltage
18 power-line carrier technology, and Badger gas communication modules
19 communicate with nodes via one-way wireless radiofrequency signals. Each node
20 is equipped with a cellular modem that allows for data and signals to be sent to
21 and received from the node environment. The devices within the node

environment are managed by head-end control systems. The Echelon Networked Energy Services (Echelon NES) head-end system manages Echelon AMI meters, the Badger Read Center manages the gas communication modules, and the Ambient Network Management System (Ambient NMS) manages the communication nodes.

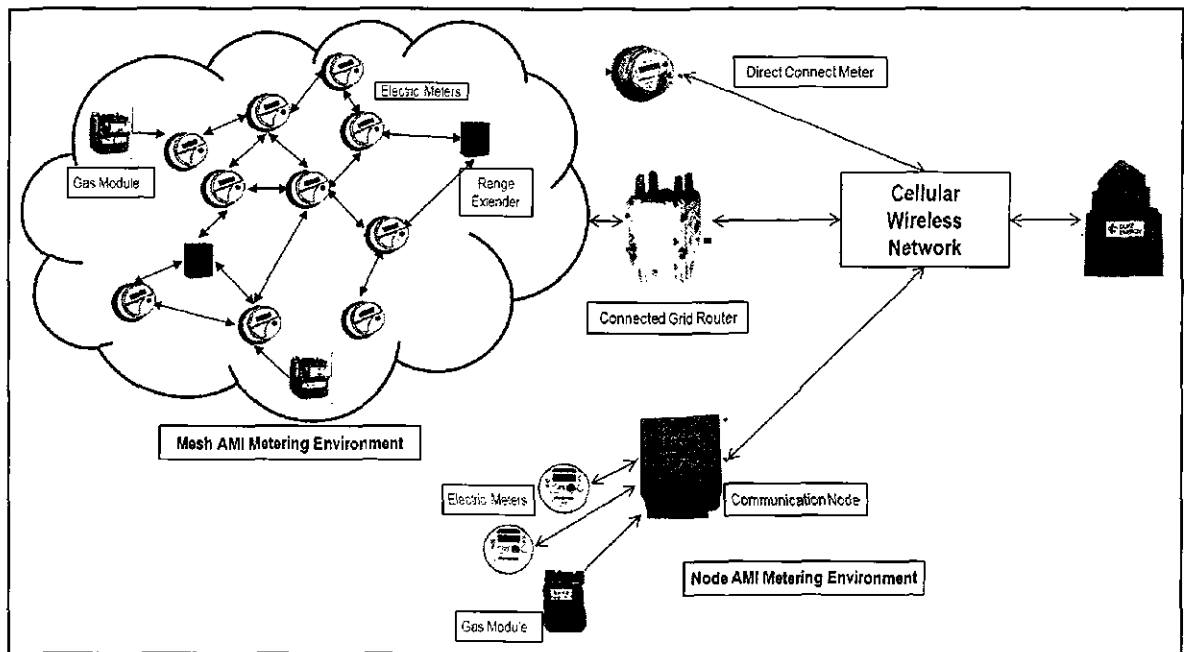
Q. HOW DO COMMUNICATIONS WORK IN THE AMI MESH ENVIRONMENT?

A. The mesh environment is so described because Itron electric meters communicate with one another and CGRs using wireless radiofrequency signals with IPv6 communication protocol, effectively forming a meshed communication network across a geographic area. Itron gas communication modules communicate with Itron electric AMI meters using a separate wireless radiofrequency signal that uses a communication protocol known as ZigBee and that data is then carried over the mesh network to CGRs. Each CGR is equipped with a cellular modem that allows for data and signals to be sent to and received from the mesh environment. Itron range extenders are used in the mesh environment to help extend the wireless radiofrequency signal when necessary. The Itron OpenWay head-end system manages the Itron AMI meters and the Cisco Network Management System (CGNMS) manages the CGRs.

Figure 1 below illustrates Duke Energy Ohio's overall AMI network architecture. The mesh environment is depicted in the top left corner of the image. It shows gas modules communicating with electric meters and the electric meters communicating with one another and the CGR wirelessly. It then shows how the

1 CGR communicates through the cellular wireless network. The node environment
2 is portrayed at the bottom of the image. It shows electric meters and gas modules
3 communicating directly to a communication node, which also then communicates
4 through the cellular wireless network. Finally, at the top of Figure 1 there is a
5 depiction of an Itron Direct Connect electric AMI meter, which communicates
6 directly over the cellular wireless network using a built-in cellular radio. The
7 Direct Connect meters are used as an alternative for situations in which an Itron
8 mesh electric meter at a specific premises cannot connect reliably with other mesh
9 network meters in that area and it is cost prohibitive to extend the mesh utilizing
10 Itron range extenders.

Figure 1:



1 **Q. WHAT IS THE MAJOR DIFFERENCE BETWEEN THE AMI NODE AND**
2 **MESH METERING ENVIRONMENTS?**

3 A. Since the node environment utilizes low-voltage power-line carrier technology
4 that requires installation of communication nodes at power transformers
5 associated with the downstream electric meters, individual communication nodes
6 only support about five electric AMI meters on average. In comparison, the mesh
7 environment is typically designed so that 500 to 1,000 meters can communicate
8 with a single CGR.

9 **Q. WHAT CUSTOMER CLASSES ARE SERVED BY THE SEPARATE AMI**
10 **ENVIRONMENTS?**

11 A. The node environment serves most of Duke Energy Ohio's residential electric and
12 residential combination gas and electric customers. The mesh environment serves
13 most of the Company's commercial/industrial customer classes, as well as some
14 residential customers. The mesh environment also serves some combination gas
15 and electric customers in both the residential and commercial/industrial customer
16 classes.

17 **Q. WHY IS THERE A DIFFERENCE IN AMI ENVIRONMENTS BASED ON**
18 **CUSTOMER TYPE?**

19 A. Beginning in 2009, the Company installed the AMI node environment technology
20 with electric meters manufactured by Echelon. Echelon began manufacturing AMI
21 meters with the Form 2s Class 200 meter type, which is primarily used by
22 residential customers. Echelon had planned to continue development of AMI
23 electric meters for all other meter forms but the market never developed in North

1 America for this technology so they did not start manufacturing other meter
2 forms. Therefore, the majority of Duke Energy Ohio's residential electric
3 customers are served by an Echelon meter. After analyzing other AMI
4 environments, the Company standardized on the Itron AMI mesh environment and
5 installed electric AMI meters manufactured by Itron for most of its
6 commercial/industrial electric customers and any additional customers who could
7 not be served by an Echelon Form 2s Class 200 AMI meter. In some cases, such
8 as when a customer requires demand readings, Duke Energy Ohio installed Itron
9 AMI meters for residential electric customers as well.

10 **Q. WHERE IS DUKE ENERGY OHIO'S AMI METER DATA STORED?**

11 A. Duke Energy Ohio's AMI meter data is stored in two separate meter data
12 management systems, which are responsible for processing and storing vast
13 amounts of collected meter data. For the node environment, interval AMI
14 customer energy usage data (CEUD) is stored in Oracle's first-generation meter
15 data management system called the Energy Data Management System (EDMS).
16 For the mesh environment, interval AMI CEUD is stored in Oracle's second-
17 generation meter data management system, which Duke Energy Ohio calls MDM.
18 Data in EDMS and MDM is used by Duke Energy Ohio's billing system known as
19 the Customer Management System (CMS) for billing functions.

20 **Q. DESCRIBE THE DIFFERENCES BETWEEN EDMS AND MDM WITH**
21 **REGARD TO HOW THEY PROCESS INTERVAL AMI CEUD.**

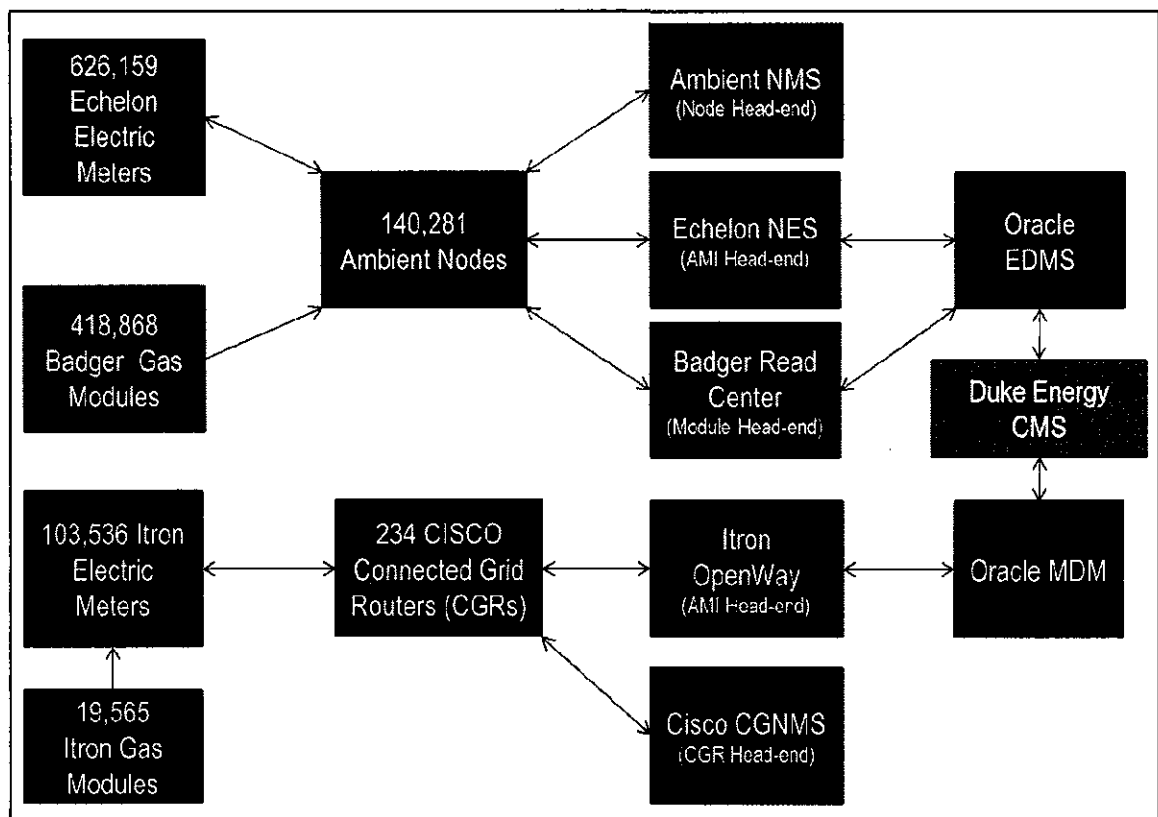
22 A. MDM provides scalable Validation, Estimation, & Editing (VEE) functionality
23 for interval AMI CEUD. EDMS relies on the CMS to provide scalable VEE

1 functionality for interval AMI CEUD. Interval AMI CEUD coming out of the
2 MDM system is considered billing-quality interval AMI CEUD, while interval
3 AMI CEUD that comes out of EDMS is not considered billing-quality interval
4 AMI CEUD.

5 **Q. WHAT IS THE CURRENT BREAKDOWN OF DEVICES DEPLOYED**
6 **ACROSS DUKE ENERGY OHIO'S TWO AMI METERING**
7 **ENVIRONMENTS?**

8 A. Figure 2 provides a visual representation of this device breakdown as of January
9 31, 2017. It also displays the respective head-ends, network management systems,
10 and meter data management systems for the two AMI metering environments.

Figure 2:



1 Using figures as of January 31, 2017, 626,159 Echelon electric meters and
2 418,868 Badger gas communication modules communicate directly with 140,281
3 communication nodes in the node environment. As of the same date, 103,536
4 Itron electric meters communicate with 234 CGRs and 19,565 Itron gas
5 communication modules communicate through the Itron electric meters to the
6 CGRs in the mesh environment.

7 **Q. IS DUKE ENERGY OHIO FACING ANY ISSUES WITH ITS AMI**
8 **METERING ENVIRONMENTS?**

9 A. In Duke Energy Ohio's AMI node environment, Ericsson is no longer
10 manufacturing communication nodes. Duke Energy Ohio's inventory of nodes is
11 therefore depleting beyond the desired stocking level with each device failure.
12 Additionally, communication nodes have been failing at a higher rate than
13 expected.

14 **Q. WHAT IS DUKE ENERGY OHIO DOING TO ADDRESS THIS ISSUE IN**
15 **THE NEAR TERM?**

16 A. Duke Energy Ohio has begun a business continuity effort for the years 2017-2018
17 to remove approximately 23,700 communication nodes currently deployed in the
18 field, in order to restore inventory back to desired stocking levels. Removing these
19 nodes – transitioning from the AMI node environment to the mesh environment –
20 requires expanding the footprint of the Company's existing mesh environment;
21 consequently, the Company will replace approximately 80,000 Echelon electric
22 meters and 48,800 Badger gas communication modules with Itron electric meters
23 and Itron gas communication modules. Upon completion of the effort, the AMI

1 node environment will contain approximately 546,000 Echelon electric meters,
2 370,000 Badger gas communication modules, and 120,000 communication nodes
3 remaining in the field.

4 **Q. WHAT IS THE ESTIMATED TIMELINE TO ADDRESS THIS NODE**
5 **ISSUE AS DESCRIBED ABOVE?**

6 A. The Company began expanding the mesh environment footprint in early 2017.
7 This business continuity work is expected to conclude by the end of 2018.

III. FUTURE STATE OF THE COMPANY'S AMI ENVIRONMENT

8 **Q. PLEASE DESCRIBE HARDWARE UPGRADES REQUIRED FOR DUKE**
9 **ENERGY OHIO'S AMI METERING ENVIRONMENTS IN THE**
10 **COMING YEARS.**

11 A. Verizon, the Company's primary cellular provider, has alerted the Company that
12 their second generation (2G) and third generation (3G) cellular networks will be
13 discontinued, or sunset, in 2022. Verizon originally planned to discontinue these
14 networks earlier than 2022, but through Duke Energy's partnership with Verizon,
15 it was agreed to extend the sunset to 2022. No further extension is expected. The
16 2G and 3G sunset will require Duke Energy Ohio to completely transition all of
17 its communication devices – whether they are nodes or CGRs – to the Verizon 4G
18 network prior to end of 2022. The 2G and 3G sunset applies to all users of the
19 Verizon cellular network, including anyone using Verizon's personal cellular
20 services.

1 **Q. HOW DOES VERIZON'S DECISION TO DISCONTINUE SUPPORTING**
2 **THE 2G AND 3G SYSTEMS AFFECT THE COMPANY'S AMI MESH**
3 **ENVIRONMENT?**

4 A. Cisco has already released a 4G CGR. Duke Energy Ohio will need to upgrade
5 233 of its current 234 CGRs to 4G communications technology before Verizon
6 ends its support. Upgrading a CGR involves swapping out the 3G communication
7 card for a 4G communication card and replacing the CGR's antennas.

8 **Q. HOW DOES VERIZON'S DECISION TO DISCONTINUE SUPPORTING**
9 **THE 2G AND 3G SYSTEMS AFFECT THE COMPANY'S AMI NODE**
10 **ENVIRONMENT?**

11 A. The loss of support for 2G and 3G is a significant long-term challenge for Duke
12 Energy Ohio's node environment due to the sheer volume of communication
13 nodes. As I mentioned previously, there are far more communication nodes
14 installed since the ratio of meters to nodes is so much lower than the ratio of
15 meters to CGRs. The Company would need to upgrade at least 140,000 nodes.
16 Adding to the challenge, the communication nodes are no longer being
17 manufactured, but the Company could work with the vendor to source a
18 replacement 4G modem and antenna that could be retrofitted into the node.
19 Upgrading a node to the 4G network is more complicated than the upgrade
20 process for CGRs. The node design incorporates a cellular modem chip that is
21 soldered onto the communication node's motherboard; so, it is a more delicate
22 and labor-intensive process than what is required for CGRs, which incorporates a
23 cellular modem card design.

1 **Q. ARE THERE ANY OTHER LONG-TERM CHALLENGES IN**
2 **SUPPORTING THE AMI NODE ENVIRONMENT?**

3 A. Since the Company began its AMI deployment, Ambient has been purchased by
4 Ericsson and Duke Energy Ohio remains the only customer utilizing the specific
5 communication nodes that were manufactured by Ambient. While Echelon has
6 had success in other countries, Duke Energy Ohio remains the only North
7 American company utilizing the Echelon AMI nodal solution. The high failure
8 rate of nodes, the lack of North American adoption, and the fact that the nodes are
9 no longer manufactured are all factors that present risk to Duke Energy Ohio and
10 its customers. Even if the Company were to upgrade all its communication nodes
11 to the Verizon 4G network, the node failure issue would not be resolved. The
12 nodes are already approaching the end of their expected 10-year useful life. The
13 Company would need to continue removing nodes and switching customers to the
14 mesh environment, just for business continuity beyond 2018. The Company has a
15 support contract in place for node repair but, with the higher than expected failure
16 rates, Ericsson is not able to keep up with the repairs.

17 **Q. HOW DOES DUKE ENERGY OHIO PLAN TO ADDRESS THE LONG-**
18 **TERM CHALLENGE WITH THE NODE ENVIRONMENT?**

19 A. Rather than upgrading the communication nodes to 4G and perpetuating the
20 support concerns the Company is already confronting in the near-term, the
21 Company proposes to transition entirely from the AMI node environment to the
22 AMI mesh environment (Ohio AMI Transition). The estimated total cost of the
23 Ohio AMI Transition effort is approximately \$143.4 million, most of which will

1 be capital costs. The work would begin in 2019 and conclude by the end of 2022.
2 Attachment DLS-1 shows the estimated costs of ownership/operation and a net
3 present value (NPV) comparison of the Ohio AMI Transition effort versus
4 retaining the node environment. I will discuss the benefits and costs of the Ohio
5 AMI Transition in depth over the next two sections of testimony.

IV. BENEFITS OF THE PROPOSED AMI TRANSITION

6 **Q. WHAT ARE THE OVERARCHING BENEFITS OF COMPLETELY**
7 **TRANSITIONING FROM THE NODE TO THE MESH AMI METERING**
8 **ENVIRONMENT?**

9 A. The Ohio AMI Transition would allow Duke Energy Ohio to avoid approximately
10 \$91.2 million in total costs to upgrade its AMI node environment to 4G, as shown
11 on Attachment DLS-1. Having all meters in the Itron AMI mesh environment
12 would mean that the Company would have billing-quality interval AMI CEUD for
13 all its electric customers with AMI meters because Itron meters necessarily feed
14 data into MDM rather than EDMS.

15 Going forward, support for the mesh environment will be significantly less
16 costly – in terms of both avoided costs and reduced costs – than the cost of
17 continuing to support the node environment. Attachment DLS-1 shows that the
18 20-year NPV of costs associated with keeping the node environment in place is
19 approximately \$190.3 million, while the 20-year NPV of costs associated with the
20 Ohio AMI Transition is approximately \$134.7 million.

21 Additionally, the Ohio AMI Transition would position the Company to
22 provide its customers with programs and services of importance to them, which I

1 understand is consistent with the Commission's PowerForward initiative and its
2 intention to consider ways in which to transform the electric distribution grid and
3 enhance the customer experience.

4 **Q. WHAT IS THE BENEFIT OF AVOIDING THE 4G UPGRADE COSTS**
5 **FOR THE COMMUNICATION NODES?**

6 A. Duke Energy Ohio would face significant costs to upgrade its communication
7 nodes to 4G, an unavoidable upgrade if it continues using the AMI node
8 environment. The Company estimates that it would cost approximately \$91.2
9 million for the project, which would begin in 2019 and end in 2021. The Ohio
10 AMI Transition will allow Duke Energy Ohio to avoid those costs by installing
11 4G CGRs and Itron AMI meters.

12 **Q. WHAT IS THE BENEFIT OF NO LONGER SUPPORTING THE NODE**
13 **ENVIRONMENT?**

14 A. If Duke Energy Ohio does not receive necessary regulatory approval and has to
15 continue with the node environment instead of undertaking the Ohio AMI Meter
16 Transition, the Company estimates it would spend \$1 million in 2019 just to
17 develop a long-term solution to address the node failure issue. At that point, the
18 business continuity effort will have concluded, but the node failure rate is
19 expected to continue increasing.

20 Besides addressing the node failure issue, the future costs to support the
21 node environment and its related systems would be avoided or reduced if the
22 Company pursues the Ohio AMI Meter Transition. Duke Energy Ohio would
23 spend less in annual on-going operation and maintenance (O&M) costs if it

1 transitions the entire node environment to the mesh environment. That includes
2 reduced costs for monthly cellular contracts and for managing communication
3 node failures, as well as avoided costs for system upgrades and vendor
4 maintenance.

V. COSTS OF THE PROPOSED AMI TRANSITION

5 **Q. WHAT IS THE ESTIMATED COST AND TIMELINE FOR THE OHIO**
6 **AMI TRANSITION?**

7 A. Duke Energy Ohio estimates that the Ohio AMI Transition will cost
8 approximately \$143.4 million, most of which will be capital costs. Attachment
9 DLS-1 shows a breakdown of project costs between electric, gas,
10 communications, and software by capital and O&M. The deployment would begin
11 in 2019 and conclude in 2022.

12 **Q. WHAT PORTION OF THE TOTAL OHIO AMI METER TRANSITION**
13 **COSTS IS FOR ELECTRIC SERVICE AND GAS SERVICE?**

14 A. About \$106.5 million of total costs for the Ohio AMI Transition are attributable to
15 electric service. Just under \$36.9 million of total costs are attributable to gas
16 service.

17 **Q. HOW DO THE COSTS OF THE BUSINESS CONTINUITY EFFORT AND**
18 **OHIO AMI TRANSITION COMPARE TO THE BENEFITS OF**
19 **AVOIDING THE NODE ENVIRONMENT COSTS?**

20 A. As mentioned earlier, Attachment DLS-1 shows that the NPV of costs to maintain
21 the node environment from 2019 through 2038 is \$190.2 million versus \$134.7

1 million to pursue the Ohio AMI Transition over the same time period. The 20-
2 year NPV analysis was used in alignment with typical internal cost analyses.

3 **Q. IS THE COMPANY PROPOSING TO RECOVER ANY OF THE COSTS**
4 **OF THE OHIO AMI TRANSITION IN THESE PROCEEDINGS?**

5 A. As discussed in the Direct Testimony of witness William Don Wathen Jr., capital
6 expenditures associated with the Ohio AMI Transition would be recovered
7 through Rider DCI, expanded to include distribution-related general, intangible,
8 and common plant, as proposed in these proceedings. O&M costs would be
9 recovered under the proposed PowerForward Rider, to the extent not otherwise
10 recovered in base rates.

VI. CONCLUSION

11 **Q. WAS ATTACHMENT DLS-1 PREPARED BY YOU OR UNDER YOUR**
12 **SUPERVISION?**

13 A. Yes.

14 **Q. IS THE INFORMATION CONTAINED IN ATTACHMENT DLS-1 TRUE**
15 **AND ACCURATE TO THE BEST OF YOUR KNOWLEDGE AND**
16 **BELIEF?**

17 A. Yes.

18 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

19 A. Yes.

Total (All Electric and Gas Costs)			
Discount Rate (DEO before tax)		7.73%	
		NPV	TOTAL (2019-2038)
O&M	Continue Node Environment		
	4G Communication Node Upgrade	78,694,632	91,162,500
	EDMS to MDM Conversion	14,140,117	15,800,000
	Long-term Communication Node Solution	928,247	1,000,000
	NES Headend Upgrades	5,123,981	10,589,310
	Monthly Cellular Cost	15,487,719	33,216,510
	Communication Device Failures	49,779,269	118,383,860
	Vendor Maintenance	26,129,276	56,039,456
		190,283,240	326,191,636
Capital	Transition to Mesh Environment		
	Ohio AMI Transition	123,299,685	143,398,848
O&M	Monthly Cellular Cost	6,418,755	14,237,970
	Communication Device Failures	372,557	930,746
	Vendor Maintenance	4,615,356	10,644,198
		134,706,353	169,211,762

Electric Costs Only			
Discount Rate (DEO before tax)		7.73%	
		NPV	TOTAL (2019-2038)
O&M	Continue Node Environment		
	4G Communication Node Upgrade	69,487,360	80,496,488
	EDMS to MDM Conversion	8,625,471	9,638,000
	Long-term Communication Node Solution	566,230	610,000
	NES Headend Upgrades	5,123,981	10,589,310
	Monthly Cellular Cost	9,447,509	20,262,071
	Communication Device Failures	43,955,094	104,532,948
	Vendor Maintenance	19,073,436	40,906,796
		156,279,082	267,035,613
Capital	Transition to Mesh Environment		
	Ohio AMI Transition	91,584,689	106,505,554
O&M	Monthly Cellular Cost	3,915,440	8,685,162
	Communication Device Failures	328,968	821,849
	Vendor Maintenance	3,528,090	8,141,157
		99,357,188	124,153,722

Gas Costs Only			
Discount Rate (DEO before tax)		7.73%	
		NPV	TOTAL (2019-2038)
O&M	Continue Node Environment		
	4G Communication Node Upgrade	9,207,272	10,666,013
	EDMS to MDM Conversion	5,514,645	6,162,000
	Long-term Communication Node Solution	362,016	390,000
	NES Headend Upgrades	-	-
	Monthly Cellular Cost	6,040,211	12,954,439
	Communication Device Failures	5,824,174	13,850,911
	Vendor Maintenance	7,055,839	15,132,659
		34,004,158	59,156,021
Capital	Transition to Mesh Environment		
	Ohio AMI Transition	31,714,995	36,893,294
O&M	Monthly Cellular Cost	2,503,314	5,552,808
	Communication Device Failures	43,589	108,896
	Vendor Maintenance	1,087,267	2,503,044
		35,349,165	45,058,042

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to)	
Establish a Standard Service Offer)	
Pursuant to Section 4928.143, Revised	)	Case No. 17-1263-EL-SSO
Code, in the Form of an Electric Security)	
Plan, Accounting Modifications and)	
Tariffs for Generation Service.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Amend	)	Case No. 17-1264-EL-ATA
its Certified Supplier Tariff, P.U.C.O. No.)	
20.)	

In the Matter of the Application of Duke)	
Energy Ohio, Inc., for Authority to Defer	)	Case No. 17-1265-EL-AAM
Vegetation Management Costs.)	

DIRECT TESTIMONY OF

RETHA HUNSICKER

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 1, 2017

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION.....	1
II. DISCUSSION	2
III. CONCLUSION	9

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Retha Hunsicker, and my business address is 400 South Tryon Street,
3 Charlotte, North Carolina, 28202.

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

5 A. I am employed by Duke Energy Business Services LLC (DEBS), as Vice-
6 President of Customer Operations. DEBS provides various administrative and
7 other services to Duke Energy Ohio, Inc., (Duke Energy Ohio or Company) and
8 other affiliated companies of Duke Energy Corporation (Duke Energy).

9 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND**
10 **PROFESSIONAL EXPERIENCE.**

11 A. I hold a Bachelor of Science degree in Business Administration from Indiana
12 Wesleyan University. Since 1981, I have been employed by, and worked for,
13 companies under what is now Duke Energy. I began my career with Public
14 Service Indiana, the predecessor to Duke Energy Indiana, Inc., (Duke Energy
15 Indiana) as an accounting assistant. Since then, I have held positions with
16 increasing levels of responsibility. More recently, the roles I've held include
17 Director, Business Standards and Integration, and General Manager, Smart
18 Energy Systems & Processes. In 2012, I took the position of Regional Director,
19 Customer Services, leading our Midwest contact centers, before promoting to
20 Vice President, Customer Contact Operations in 2013. I assumed my current role
21 as Vice President, Customer Operations, Customer Information Systems in 2015.

1 **Q. PLEASE DESCRIBE YOUR DUTIES AS VICE-PRESIDENT,**
2 **CUSTOMER OPERATIONS.**

3 A. I have executive management oversight for the customer information system
4 (CIS) consolidation project known as Customer Connect. Through this program,
5 Duke Energy will complete the successful deployment of a new customer
6 platform that will enable the functional capabilities needed to meet our strategic
7 purpose of powering the lives of our customers by transforming how we serve
8 them.

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

11 A. No.

12 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE**
13 **PROCEEDINGS?**

14 A. The purpose of my testimony is to discuss the Company's current CIS and explain
15 why it is necessary to convert that CIS into a modern customer service platform.

II. DISCUSSION

16 **Q. PLEASE EXPLAIN THE PURPOSE OF A CIS.**

17 A. A CIS manages the billing, accounts receivable, and rates for the Company and is
18 the central repository for all customer information. It links the consumption and
19 metering process to payments, collections, and other downstream processes. A
20 CIS manages customer profiles and integration of data to provide a holistic view
21 of the customer and should enable expected customer capabilities.

1 **Q. PLEASE DESCRIBE DUKE ENERGY OHIO'S CURRENT CIS.**

2 A. The CIS currently used by Duke Energy Ohio was developed more than thirty
3 years ago, beginning in 1987, and it was put in service in 1993. This CIS supports
4 Duke Energy Ohio, its wholly owned subsidiary, Duke Energy Kentucky, Inc.,
5 (Duke Energy Kentucky) and its sister utility, Duke Energy Indiana, Inc., (Duke
6 Energy Indiana). The current CIS was designed as a premises-based system. That
7 is, it was developed to communicate with a meter attached to a premises, without
8 regard to who may be consuming the services provided through that meter or how
9 they may be consuming those services.

10 The CIS has been modified over the years, with the first such modification
11 occurring shortly after it was put in service. This modification was needed in 1999
12 because of the deregulation of Ohio's electric generation market. And subsequent
13 changes have been necessary in order to allow the Company to continue to adapt
14 and serve our customers' growing expectations and needs.

15 **Q. HOW HAVE MODIFICATIONS TO THE CURRENT SYSTEM BEEN**
16 **MADE?**

17 A. Although state-of-the-art nearly thirty years ago, the current CIS was not designed
18 to efficiently support new capabilities. We continue to add on functions to the
19 legacy system to try to meet business needs. But as we add newer technologies to
20 the legacy system, the complexity continues to increase, thereby leading to more
21 system disruptions and longer time to recover from outages. In some cases, the
22 business has started looking for other options to meet needs, resulting in
23 disjointed solutions and causing us to leverage multiple vendors. Moreover,

1 certain functions are not compatible with the current CIS as further discussed
2 below.

3 **Q. IS THE CURRENT SYSTEM A FULLY AUTOMATED SYSTEM?**

4 A. No. There are inherent design limitations in this decades-old system and it is not
5 possible to incorporate modifications that enable the automation of certain
6 functions, such as complex billing.

7 **Q. PLEASE EXPLAIN HOW COMPLEX BILLING IS COMPLETED**
8 **UNDER THE COMPANY'S CURRENT CIS.**

9 A. Because of the existing limitations with the current CIS, complex billing functions
10 must be done manually. Additionally, the system is not designed to enable
11 automated billing for customers having distributed generation with net metering.
12 Our current systems were not designed to produce a credit bill, so these customers
13 receive bills containing charges that are calculated manually. These manual
14 interventions are not desirable for a variety of reasons. Among such reasons is
15 inefficiency. Additionally, as the number of customers having these billing
16 arrangements increases, there is an understandable impact on the Company's
17 ability to provide timely and accurate bills. And it must be accepted that injecting
18 manual intervention into what should be an entirely automated process creates an
19 opportunity for unintended consequences.

20 **Q. ASIDE FROM THOSE RELATED TO COMPLEX BILLING, ARE**
21 **THERE LIMITATIONS WITH THE CURRENT CIS?**

22 A. As I mentioned above, the current CIS is a premises-based system. Such a
23 restrictive system prevents Duke Energy Ohio from interacting with customers in

1 a meaningful and continually relevant manner. For example, the current CIS does
2 not enable the Company to identify a customer's preferred method of
3 communication. Thus, a customer who consistently opts out of the interactive
4 voice response (IVR) in order to speak directly with a customer service
5 representative must continue to go through, for them, an irritating process to
6 obtain answers or information related to their utility service. Additionally, much
7 of our customer base favors more modern communication channels where
8 information is almost immediately available. The current CIS does not enable
9 these customers to employ their preferred methods of communication.

10 Further, the current CIS does not enable ready access to account histories
11 that can be important in non-pay situations or when a customer is seeking to
12 relocate within the Duke Energy jurisdictions. Consequently, a long-standing
13 customer with a history of consistently paying bills on time and in full could be
14 required to pay a security deposit as a condition of receiving service in a new
15 home; a situation that could be avoided with improved access to account histories.

16 **Q. CAN DUKE ENERGY OHIO SIMPLY RELY ON CONTINUED**
17 **MODIFICATIONS OF THE EXISTING CIS?**

18 A. No. As a practical matter, the current limitations discussed above cannot be
19 remedied with modifications. Continued investment to modify an antiquated
20 technology platform is not practical or sustainable. CISs, like any other software
21 solution, are subject to obsolescence. Upgrades cannot remedy the problems
22 encountered with obsolescence and, like other technology and software, must be
23 made periodically to meet customer expectations. Moreover, Duke Energy Ohio's

1 current CIS does not interact with the CISs in use by Duke Energy's other
2 regulated utilities, which creates additional inefficiencies.

3 **Q. PLEASE DISCUSS THESE ADDITIONAL INEFFICIENCIES.**

4 A. As I discussed previously, the CIS currently in use by Duke Energy Ohio also
5 supports Duke Energy Kentucky and Duke Energy Indiana. But since the
6 inception of the existing CIS decades ago, there have been a series of mergers and
7 acquisitions creating the current Duke Energy family, which now also includes
8 public utilities in North Carolina, South Carolina, and Florida. These other
9 utilities understandably had their own CIS and they continue to rely upon them.
10 But these different systems are not compatible with each other and must be
11 consolidated into one CIS.

12 Each of these systems varies in age, technological capability, cost to
13 operate, upgradability, and scalability. None of these existing systems is
14 considered to possess the ability to meet growing customer needs or their
15 increasingly desired levels of service across and throughout Duke Energy's
16 footprint. Maintaining multiple existing CIS is not a viable, cost-effective, or
17 prudent solution.

18 Customer Care Operations is currently experiencing system downtime and
19 the vast majority is due to one of the four CISs or CIS interfaces or processes. It is
20 expected that consolidating into a single or modern platform will significantly
21 reduce this system downtime. The program will retire the mainframe and
22 rationalize the support structure that supports the current CISs.

1 The need to evolve to meet customer expectations will continue beyond
2 the program and it is expected that a consolidated modern platform will greatly
3 simplify these efforts. In current state, the system changes that are required to
4 introduce a new rate structure, for example, tend to be complex and are usually
5 completed four times, once for each CIS used by Duke Energy's regulated
6 utilities. A single and modern platform will reduce the complexity, timeline, and
7 the number of changes required.

8 **Q. PLEASE DISCUSS HOW A MODERN CIS WILL BENEFIT DUKE**
9 **ENERGY OHIO'S CUSTOMERS.**

10 A. Through the consolidation of the older CISs into a new CIS, Duke Energy and, in
11 turn, Duke Energy Ohio, will be able to deliver a universal customer experience
12 solution that will simplify, strengthen, and advance the ability to serve our
13 customers. Key customer benefits include the following:

- 14 • Universal, simplified processes for customers;
- 15 • New and comprehensive ways to understand customers and better
16 serve their unique needs; today we only understand our meters;
- 17 • Improvements to bill formats, helping customers more easily view and
18 understand their bills;
- 19 • Reduction in the complexity, timeline, and the number of systematic
20 changes required when introducing new rates, riders, and programs to
21 better serve customers' unique needs;

- 1 • Flexibility and scale in leveraging advanced metering infrastructure
- 2 and providing customers alternative rates and additional basic services;
- 3 and
- 4 • More opportunities for advanced pricing structures and billing options.

5 **Q. WILL THE NEW SYSTEM ALLOW FOR MORE FLEXIBLE RATE**
6 **DESIGN AND OTHER RATE OFFERINGS?**

7 A. Yes, our current system requires significant coding to implement new rates and
8 pricing. New, modern CISs are much more configurable, reducing the amount of
9 time to implement and test pricing changes and offerings.

10 **Q. HOW LONG WILL IT TAKE TO FULLY IMPLEMENT THE SYSTEM**
11 **FOR DUKE ENERGY OHIO?**

12 A. The new CIS is currently planned to be placed in service in 2022. Prior to full
13 deployment, we will be deploying new capabilities every year that will improve
14 our customers' experience.

15 **Q. WILL CUSTOMERS SEE ANY BENEFITS PRIOR TO FULL**
16 **DEPLOYMENT FOR DUKE ENERGY OHIO?**

17 A. Yes, we will be deploying new capabilities every year leading up to full
18 deployment to improve our customers' experience. These capabilities include,
19 among others:

- 20 • Expanded communications preferences
- 21 • Streamlined IVR experience
- 22 • More personalized and customer-centric service
- 23 • Universal, customer-friendly bill format

1 **Q. WHAT IS THE ESTIMATED COST FOR THE CIS IMPROVEMENT**
2 **APPLICABLE TO DUKE ENERGY OHIO'S ELECTRIC CUSTOMERS?**

3 A. The estimated cost for Duke Energy Ohio's electric customers is \$45 million to
4 50 million, with approximately 50 percent reflecting the capital investment.

5 **Q. IS DUKE ENERGY OHIO PROPOSING TO RECOVER ANY OF THE**
6 **COST OF THE CIS REPLACEMENT IN THESE PROCEEDINGS?**

7 A. As discussed by Duke Energy Ohio witness William Don Wathen Jr., and as
8 proposed in these proceedings, capital expenditures would be recovered via Rider
9 DCI expanded to include distribution-related general, intangible, and common
10 plant. And, to the extent not otherwise recovered in base rates, the Company is
11 proposing that operating and maintenance costs be recoverable under its proposed
12 PowerForward Rider inasmuch as this is precisely the type of program envisioned
13 by the Commission as enhancing the customer experience.

III. CONCLUSION

14 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

15 A. Yes.