

**BEFORE**

**THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Duke )  
Energy Ohio, Inc., for Tariff Approval )  
Regarding Customer Energy Usage Data. )

Case No. 14-2209-EL-ATA

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**DIRECT TESTIMONY OF**

**SCOTT B. NICHOLSON**

**ON BEHALF OF**

**DUKE ENERGY OHIO, INC.**

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April 26, 2017

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**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 the Manager of 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. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

19 A. The purpose of my testimony will be to respond to certain questions raised by the  
20 Commission in regard to providing interval customer energy usage data (CEUD)  
21 to CRES providers. My testimony will begin with a discussion of Duke Energy

1 Ohio's existing processes wherein the Company provides customer information to  
2 CRES providers and the history of the Secured Certified Supplier Information  
3 portal (Portal).

## II. DISCUSSION

4 **Q. PLEASE DESCRIBE WHAT CUSTOMER ENERGY USAGE DATA IS**  
5 **CURRENTLY AVAILABLE TO CRES PROVIDERS FROM THE**  
6 **COMPANY.**

7 A. CEUD is available to CRES providers from three sources:

- 8 1. Preenrollment List – The Preenrollment List provides twelve months of  
9 monthly customer usage data for all customers (except for those customers  
10 who have opted out of the list). The list also includes load profile  
11 indicators, current and future Peak Load Contribution (PLC) values, and  
12 indicates whether a customer is taking service from a supplier. It is  
13 important to note that this list does not contain customer account numbers.
- 14 2. Electronic Data Interchange (EDI) – CEUD is also available through an  
15 EDI transaction. EDI can provide both monthly and interval customer  
16 usage data, for up to twelve months, and interval data is provided in 15-  
17 minute intervals. The interval data that is available from EDI is only for  
18 those customers who have an Interval Data Recorder (IDR) meter. Such  
19 customers are typically commercial customers. As of January 31, 2017,  
20 Duke Energy Ohio has 5,182 IDR meters.
- 21 3. Portal – An internet Portal is also available to CRES providers to obtain  
22 CEUD. This information is available to CRES providers on a per-

1 customer basis. That is, a CRES provider can request information, subject  
2 to having obtained the proper authorization, one customer at a time. The  
3 Portal provides both monthly and interval customer data as described  
4 below:

- 5 a. The Portal provides up to 24 months of monthly customer usage  
6 data (as well as current and future PLC values) for all customer  
7 classes, including residential customers with proper authorization.
- 8 b. The Portal provides hourly interval customer usage data for  
9 customers who have either an IDR or an Advanced Metering  
10 Infrastructure (AMI) meter – this data can be requested for either  
11 the most recent 12 or 24 month billing periods. Each hourly  
12 interval indicates whether the data in that interval is of billing  
13 quality or not.

14 **Q. PLEASE EXPLAIN THE HISTORY OF THE COMPANY'S CERTIFIED**  
15 **SUPPLIER PORTAL.**

16 A. The Portal has been available since January 2001 and originally provided twelve  
17 months of summary information for all customers. However, more recently in  
18 Case No. 11-3549-EL-SSO, Duke Energy Ohio agreed to enhance the Portal to  
19 enable the release of additional data to suppliers. The Stipulation and  
20 Recommendation in that case included a number of specific pieces of information  
21 that were to be provided through the Portal. When the Stipulation and  
22 Recommendation was adopted and approved by the Commission, the Company  
23 immediately began working on enhancing the Portal. It was ready for use in mid-  
24 May 2014.

1           While the Company was in the process of enhancing the Portal, the  
2 Commission began a rulemaking process to amend rules related to customer  
3 authorization. Based on the amended rules regarding residential customer  
4 authorizations the Company was then required to build a system that would also  
5 allow for this change in the customer authorization process, which required  
6 additional time. During this time, and after making the necessary changes, the  
7 Company made non-residential AMI interval CEUD available to CRES providers  
8 on the Portal in November 2015.

9           The Commission's rules require Duke Energy Ohio to retain a residential  
10 customer's authorization before releasing the customer's interval CEUD.  
11 Automated processes were added to the Portal that allow CRES providers the  
12 ability to upload a residential customer's authorization to release interval CEUD.  
13 Only after this authorization is received by the Company will the data be  
14 accessible to CRES providers. This function was made available in May 2016, at  
15 which point interval CEUD from an additional 655,000 meters were made  
16 accessible to CRES providers through the Portal. Details related to the release of  
17 this data have been discussed at the Commission in the Market Development  
18 Working Group.

19 **Q.   WHAT INTERVAL CEUD DATA IS CURRENTLY AVAILABLE TO**  
20 **CRES PROVIDERS?**

21 A.   CRES providers have access to interval CEUD from:

- 22       1. Commercial and Industrial customers with IDR meters,
- 23       2. Commercial and Industrial customers with the AMI meters, and
- 24       3. Residential customers with AMI meters.

1 **Q. WHY DO YOU DISTINGUISH BETWEEN CUSTOMERS WITH IDR**  
2 **METERS AND CUSTOMERS WITH AMI METERS?**

3 A. The reference to IDR highlights the complexity between current system  
4 constraints, complexity in rules, and number of meters. It is important to note that  
5 there is a significant difference in the number of IDR meters compared to AMI  
6 meters. As of January 31, 2017 Duke Energy Ohio currently had 5,182 IDR  
7 meters and 729,695 AMI meters. The data from IDR meters is the original  
8 interval data that was available from large Commercial & Industrial customers,  
9 and is where there has been a historical need for this level of detail. There have  
10 been important procedures and systems designed around this data; these include  
11 systems and processes that allow the data to be used in retail billing and in the  
12 PJM Interconnection, L.L.C. (PJM) settlement processes.

13 The two major areas of difference between how the data is processed and  
14 used is in:

- 15 1. The Validation, Estimation, and Editing (VEE) process, which is the  
16 process to identify and account for missed and inaccurate meter reads to  
17 derive billing quality data, and
- 18 2. The process of settling hourly interval usage data with the PJM wholesale  
19 market.

20 These processes address whether the data is of the sufficient quality to use  
21 on a retail bill and whether there are systems in place to use the data to settle in  
22 the PJM wholesale markets.

1 **Q. CAN THESE ALREADY DEVELOPED SYSTEMS AND PROCESSES**  
2 **USED FOR IDR METERS ALSO BE USED FOR THE ADDITIONAL AMI**  
3 **METERS?**

4 A. When it comes to changing these processes and systems it is important to  
5 recognize that there are significant changes in scale going from 5,182 IDR meters  
6 versus 729,695 AMI meters. This significant change in scale surpasses the  
7 existing capacity for many of the processes and systems currently used.

8 **Q. PLEASE DISCUSS THE QUESTIONS RAISED BY THE COMMISSION**  
9 **IN THIS PROCEEDING.**

10 A. The Commission has asked the Parties to respond to four specific questions. The  
11 first question is: "What AMI CEUD is Duke currently collecting, and what are its  
12 system capabilities. This includes granularity of data, frequency of data  
13 collection, duration of data stored, and the ability to validate, estimate, and edit  
14 AMI data."

15 Since this case concerns the provision of interval CEUD, this response is  
16 limited to interval AMI CEUD. Duke Energy Ohio's AMI meters record interval  
17 CEUD in the form of kWh delivered usage at fifteen minute intervals. The  
18 Company collects the interval AMI CEUD from meters once a day. The interval  
19 AMI CEUD is stored in compliance with regulatory record retention  
20 requirements.

21 CEUD that has gone through the VEE process is considered billing-quality  
22 data. Duke Energy Ohio's ability to perform VEE processes varies based upon the  
23 meter data management system through which the two types of AMI meters are  
24 processed.



1           AMI meters manufactured by Echelon are processed through Oracle's first  
2 generation meter data management system, which Duke Energy refers to as  
3 Energy Data Management System (EDMS). EDMS does not have scalable VEE  
4 functionality for interval AMI CEUD.

5           AMI meters manufactured by Itron are processed through Oracle's second  
6 generation meter data management system, which Duke Energy refers to as the  
7 Meter Data Management (MDM) system. MDM performs VEE processes on  
8 interval AMI CEUD, so meters processed through that meter data management  
9 system have billing quality interval AMI CEUD. In addition to the Itron AMI  
10 meters, there are a limited number of Echelon AMI meters in MDM that were  
11 associated with a pilot time of use rate.

12           In regard to PJM settlement, the Company's systems are currently capable  
13 of settling interval data from IDR meters only (5,182 meters). Data from AMI  
14 (729,695 meters) are settled based on scalar data and load profiles. Including the  
15 interval data from the 729,695 AMI meters in PJM settlements has been one of  
16 the changes requested by CRES providers.

17 **Q. PLEASE RESPOND TO THE COMMISSION'S SECOND QUESTION**  
18 **REGARDING WHAT TYPE OF CEUD SHOULD BE AVAILABLE TO**  
19 **CRES PROVIDERS.**

20 A. A question regarding what type of CEUD should be available to CRES providers  
21 is best answered by CRES providers. Duke Energy Ohio agreed to provide  
22 interval AMI CEUD to CRES providers in its second electric security plan case.  
23 Based on that agreement, the Company created a web portal that now provides all  
24 of the information that was requested by the CRES providers at that time. The

1 supplier web portal was briefly delayed due to changes in the requirements for  
2 obtaining and maintaining customer authorization. The information presently  
3 available on the Portal was discussed earlier and includes both interval and  
4 monthly (scalar) CEUD.

5 With respect to what should be available, the Company has provided all  
6 that has been requested and agreed to by all parties. If CRES providers believe  
7 that systems should be changed or enhanced, the Company believes that such  
8 information should be requested and justified by CRES providers so that the  
9 Commission can make the correct policy determination as to what is required and  
10 how such systems will be funded. However, in an effort to provide a thorough  
11 response to the Commission's inquiry the Company is also proposing a business  
12 plan that will enable the provision of interval CEUD to CRES providers on a  
13 larger scale. The Company has filed a proposed plan for meter deployment and  
14 changes to all of the systems necessary, in its rate case filing, Case No.17-032-  
15 EL-AIR, *et al.* The rate case application and testimony provide a more complete  
16 discussion of the Company's proposal and also provides a proposed cost recovery  
17 mechanism.

18 **Q. PLEASE RESPOND TO THE COMMISSION'S THIRD QUESTION**  
19 **ASKING WHAT ARE THE ESTIMATED COSTS TO PROVIDE AMI**  
20 **CEUD TO CRES PROVIDERS AND WHAT IS THE APPROPRIATE**  
21 **COST RECOVERY MECHANISM?**

22 A. Costs associated with providing AMI CEUD to CRES providers in an enhanced  
23 manner are discussed in greater detail in the Company's currently pending electric  
24 distribution rate case, Case No.17-032-EL-AIR, *et al.*

1 Q. WHAT IS THE REALISTIC TIMEFRAME FOR IMPLEMENTING A  
2 CEUD SHARING SYSTEM?

3 A. Given that there are unanswered questions with respect to enhancing the CEUD  
4 sharing system, providing a timeframe for those enhancements is problematic. Based  
5 upon conversations with CRES providers on scope and internal experience, it is  
6 reasonable to assume that such changes and enhancements may take as many as  
7 three years to implement a solution that impacts multiple major systems. This  
8 estimated timeframe is discussed further in recommendations included in the  
9 Company's currently pending electric distribution rate case, Case No.17-032-EL-  
10 AIR, *et al.*

### III. CONCLUSION

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

12 A. Yes.

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