Duke Energy Ohio Exhibit _____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc. to Adjust Rider DR-IM and Rider AU for 2011 SmartGrid Costs	)))	Case No. 12-1811-GE-RDR

DIRECT TESTIMONY OF

DONALD L. SCHNEIDER, JR.

ON BEHALF OF

DUKE ENERGY OHIO, INC.

June 20, 2012

TABLE OF CONTENTS

Page

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Donald L. Schneider, Jr., and my business address is 139 East Fourth Street, Cincinnati, Ohio, 45202.

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

A. I am employed by Duke Energy Business Services LLC, an affiliate of Duke Energy Ohio, Inc. (Duke Energy Ohio or Company), as General Manager, SmartGrid Field Deployment.

Q. WHAT IS YOUR PRIMARY RESPONSIBILITY AS GENERAL MANAGER, SMARTGRID FIELD DEPLOYMENT?

A. As General Manager, SmartGrid Field Deployment, I am responsible for managing the installation of the SmartGrid equipment in the field, including both the Advanced Metering Infrastructure (AMI) and Distribution Automation (DA) devices for all Duke Energy Corp. (Duke Energy) jurisdictions.

Q. PLEASE BRIEFLY DESCRIBE YOUR PROFESSIONAL AND EDUCATIONAL BACKGROUND.

A. I received a Bachelor of Science Degree in Electrical Engineering from the University of Evansville in 1986. Upon graduation, I was employed by Duke Energy Indiana (then known as Public Service Indiana) as an electrical engineer. Throughout my career, I have held various positions of increasing responsibility in the areas of engineering and operations, including distribution planning, distribution design, field operations, and capital budgets. Immediately prior to my current position, I was General Manager, Midwest Premise Services, responsible

for managing all of Duke Energy's Midwest Premise Services and meter reading departments. I was promoted to my current position in 2008.

Q. ARE YOU A REGISTERED PROFESSIONAL ENGINEER?

A. Yes, and have been since 1995.

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

A. Yes, I provided written testimony in several earlier Duke Energy Ohio SmartGrid cases, including Case No. 09-543-GE-UNC, Case No. 10-867-GE-RDR and Case No. 10-2326-GE-RDR.

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

A. I will discuss the status of Duke Energy Ohio's deployment of SmartGrid, or Grid Modernization, in its service territory, the progress made to date generally, and successes we have experienced as a result of the deployment.

II. DUKE ENERGY OHIO'S CURRENT DEPLOYMENT

Q. AS THE DEFINITION OF SMARTGRID, OR GRID MODERNIZATION, TENDS TO VARY AMONG UTILITIES, PLEASE DESCRIBE THE DUKE ENERGY OHIO SMARTGRID SYSTEM.

A. Duke Energy's definition of a smart grid, or grid modernization, entails the deployment of AMI, DA, a two-way digital communication network, and all supporting information technology systems required to enable the collection and management of smart grid device generated data in support of Duke Energy's business goals and objectives. Our AMI and associated communications network

consists of a fully advanced metering system that provides two-way communications between the meter and the back office data systems. Communications "from the meter" include capabilities to receive regular usage interval meter reads, off-cycle meter reads, theft/tamper alarms, power quality alarms, etc. Communications "to the meter" include capabilities to send meter program updates, remote customer requested disconnects and reconnects, non-pay disconnects and reconnects, etc. The DA component of our SmartGrid program includes the application of two-way communications to important system devices providing us with more detailed information of system activity as well as the capability of remote monitoring and operation of system devices with the implementation of a new Distribution Management System (DMS).

Duke Energy Ohio's initial deployment began in early 2008 with an AMI deployment that focused on a geographic area just north of the downtown Cincinnati area where there are a large number of inside meters. The deployment of SmartGrid in this area provided an immediate advantage to customers as they no longer need to allow Duke Energy Ohio employees into their homes to obtain monthly meter reads. In 2011, we began deploying in the outlying suburbs of Cincinnati, including more rural areas.

Our DA deployment began in 2009 and was spread across our Ohio service territory providing an immediate benefit of system reliability improvements with additional remote operations capabilities of system devices including "self healing" functionality.

Q. PLEASE DISCUSS DISTRIBUTION AUTOMATION OR DA IN GREATER DETAIL.

A. Distribution automation is a term used to describe the transformation of an existing distribution system that requires a lot of manual on-site operation of power equipment to an advanced distribution system with power equipment capable of being operated automatically or remotely through use of two-way communications and advanced control systems offered by our existing Supervisory Control And Data Aquisition (SCADA) system and the implementation of our new Distribution Mangement System (DMS). The automation of distribution equipment will help the Company to obtain near real-time operating data, reduce truck visits to customer premises, improve operating efficiencies, reduce operations and maintenance (O&M) cost, and reduce outage duration. Duke Energy Ohio expects to gain a number of benefits from this modernization of our distribution system, including improved system reliability, power quality, operating efficiencies, and customer satisfaction.

Q. WHAT IS THE STATUS OF DUKE ENERGY OHIO'S 2011 DEPLOYMENT OF SMARTGRID?

A. 2011 was the third year for our full-scale DA deployment. In 2011, we installed and/or upgraded over 260 system devices inside substations and over 860 system devices on distribution circuits, which met our 2011 plan. 2011 was the second year for our full-scale AMI deployment. The target for 2011 was to install 170,000 electric meters, 115,000 gas meters/modules, and 48,800

communications nodes. Our actual installation numbers for 2011 were 185,682 electric meters, 127,987 gas meters/modules, and 48,954 communications nodes.

Q. WHAT ARE THE AMI TOTALS TO DATE SINCE DEPLOYMENT BEGAN IN 2008, AND WHAT ARE THE OVERALL AMI PROJECT PLAN TOTALS UPON COMPLETION OF THE PROJECT?

A. Through first quarter 2012, we have installed a total of 358,788 electric meters, 251,179 gas modules, and 84,384 communications nodes and have certified 326,065 of the electric meters installed and 227,607 of the gas modules installed. Certified is a term used to identify when the meter has successfully completed the commissioning and verification process and the meter data is ready to be used for billing. These numbers put our total planned AMI deployment at approximately 50% complete, with deployment planned for completion in the middle of 2014. With the completion of our AMI deployment plan, we will have installed over 730,000 electric meters, 450,000 gas meters/modules, and 135,000 communications nodes.

Q. WHAT ARE THE DA TOTALS TO DATE SINCE DEPLOYMENT BEGAN IN 2009, AND WHAT ARE THE OVERALL DA PROJECT PLAN TOTALS UPON COMPLETION OF THE PROJECT?

A. Through first quarter 2012, we have installed and/or automated with two-way communications capabilities, a total of 575 system devices inside substations and over 1,400 system devices on distribution circuits. These numbers put our total planned DA deployment at approximately 55% complete, with deployment planned for completion year-end 2013. With the completion of our DA

deployment, we will have installed and/or automated with two-way communications capabilities, a total of 1,055 system devices inside substations and over 5,800 system devices on distribution circuits.

Q. PLEASE EXPLAIN SYSTEM AVERAGE INTERRUPTION FREQUENCY INDEX AND HOW DUKE ENERGY OHIO IS PERFORMING AGAINST TARGETS.

A. System Average Interruption Frequency Index (SAIFI) is a utility industry standard for reporting the average number of sustained (greater than five minutes) interruptions per customer per year. In Duke Energy Ohio's 2008Electric Security Plan (ESP), Case No. 08-920-EL-SSO, the parties to the case reached a stipulation settling the case and the Public Utilities Commission of Ohio (Commission) adopted the stipulation in its Opinion and Order. In that stipulation, Duke Energy Ohio committed to achieving specified SAIFI targets for each year of the deployment. The numbers agreed to are as follows:

Year	SAIFI
2009	**1.50**
2010	**1.44**
2011	**1.38**
2012	**1.31**
2013	**1.24**
2014	**1.17**
2015	**1.10**

Duke Energy Ohio is pleased to note that it has met or exceeded its SAIFI target for 2009, 2010, and 2011. The 2009 SAIFI number was 1.30, 2010 was 1.10, and 2011 was 1.38. The Duke Energy Ohio service territory experienced an unsually large number of storms in 2011. Seventeen storm events were declared

in 2011 compared to twelve in 2010 and ten in 2009. Through April 30, 2012, our current twelve month rolling SAIFI is at 1.28.

Q. PLEASE EXPLAIN SOME OF THE PROCESSES THE COMPANY DEVELOPED AROUND CUSTOMER INTERACTION DURING DEPLOYMENT.

A. The customer engagement process is a very important part of successfully implementing a program as large as Duke Energy Ohio's SmartGrid program. For our AMI deployment, we have taken a very surgical approach to our communication tactics, avoiding broad-based marketing campaigns and focusing more on what is happening (meter install) and why (the "now" benefits).

Communications related to deployment are traditional in nature and include "snail mail," phone calls, and face-to-face meetings. For example, customers in Ohio who are scheduled for a smart meter installation could hear from us up to ten times during the meter change and certification process. This includes notification of the meter replacement, site visits, phone calls, and follow-up letters. The final communications customers receive include a letter to advise them that their meter is now certified (*i.e.*, remotely sending usage data for billing) and to invite them to visit Duke's Envision Center to learn more.

Also, with greater than 30% of Duke Energy Ohio meters being located inside customer premises, we realized we would encounter difficulty in accessing a certain percentage of these inside meters. As a result, we developed a detailed process defining our approach to gaining access to replace indoor meters defined as "Hard to Access (HTA)." In summary, the overall customer engagement

process for our meter exchange work includes up to nine different communications efforts with our customers to notify them of our meter exchange program and that we need to gain access to their meter if it becomes an HTA situation. These nine points of contact (or attempted contact) occur over a minimum of a 47 calendar day period.

To supplement deployment communications, our website -- www.duke-energy.com/smartgrid -- includes an interactive deployment map and a "Frequently Asked Questions" (FAQ) document that addresses issues being discussed at a national level and by our customers. Our "Envision Smart Energy" video is also available on the site. Responses in the FAQ document are used by customer service representatives, corporate communications, community relations managers, and deployment personnel to respond to customer inquiries, including issues prevalent in the media.

Customer complaints related to our SmartGrid deployment have been minimal – less than two tenths of one percent of total installations – and are generally focused in one of five areas: 1) communications, 2) installation, 3) service disconnection, 4) bill accuracy and 5) other miscellaneous. In most cases, we use existing processes to manage complaints. For issue-based questions and complaints (e.g., radio frequency electromagnetic fields from the meter), we connect the customer with an internal subject matter expert to discuss concerns in detail. In some situations, we have been able to use our Envision Center to explain our SmartGrid program, and that has proven helpful.

Duke Energy Ohio is committed to being as responsive as possible in getting the meters installed with the least amount of disruption to the customer. We continue to review customer complaints and feedback and adjust our communications and processes, as needed.

Q. PLEASE DISCUSS SOME OF THE SUCCESS STORIES EXPEREINCED TO DATE FROM THE SMART GRID DEPLOYMENT.

A. Customers seeing increased reliability is evident from the reductions in SAIFI as noted above. We have been tracking the success of our self-healing teams and have experienced to-date a total of 17 operations to date, which have resulted in saving nearly 23,000 customers from a sustained outage, totaling over 1.8 million customer outage minutes saved. The increased sectionalization and remote control capabilities of substation breakers has also been successful in contributing to the increased realibility, however, tracking these events is not easily accomplished. From our AMI deployment, we are seeing great results from our capability to remotely capture off-cycle reads and remotely disconnect and reconnect service. Since May of 2010, when remote operation capability was implemented, we have saved nearly 225,000 truck rolls. We are currently offering daily energy usage data via our Duke Energy Ohio portal to over 350,000 customers, or roughly 50% of our customer base.

Q. IS THE DEPLOYMENT MOVING ALONG MORE EFFICIENTLY?

A. Yes. Duke Energy Ohio learned a great deal during the process of deploying AMI and DA and as demonstrated by the numbers set forth above, we believe we are efficiently moving forward with the deployment.

III. CONCLUSION

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

A. Yes.

Summary: Testimony Direct Testomony of Donald L Schneider, Jr on Behalf of Duke Energy Ohio, Inc. electronically filed by Carys Cochern on behalf of Watts, Elizabeth H. Ms.