COMMONWEALTH OF KENTUCKY
BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION

In the Matter of:

The Application of Duke Energy Kentucky, Inc., for (1) a Certificate of Public Convenience and Necessity Authorizing the Construction of an Advanced Metering Infrastructure; (2) Request for Accounting Treatment; and (3) All Other Necessary Waivers, Approvals, and Relief. Case No. 2016-00152

DIRECT TESTIMONY OF
ALEXANDER “SASHA” J WEINTRAUB PH.D.

ON BEHALF OF
DUKE ENERGY KENTUCKY, INC.

April 25, 2016
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Attachment:

SJW-1
I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
A. My name is Alexander J (Sasha) Weintraub, and my business address is 400 South Tryon Street, Charlotte, North Carolina 28202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
A. I am employed by Duke Energy Progress, LLC (Duke Progress) as the Senior Vice President of Customer Solutions. Duke Progress provides various administrative and other services to Duke Energy Kentucky and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.
A. I received a Bachelor of Science degree in Engineering from Rensselaer Polytechnic Institute, a Master's degree in Mechanical Engineering from Columbia University and a Ph.D. in Industrial Engineering from North Carolina State University.

I assumed my current position as Senior Vice President of Customer Solutions in October 2015. Previously, I was Senior Vice President of Market Solutions for Duke Energy. I was responsible for economic development, large business customers, rate design and analysis, customer regulatory strategy and analytics, data analytics and wholesale power sales for Duke Energy. I have also served as Vice President of Fuels and Systems Optimization for Duke Energy. In this role, I led the organization responsible for the purchase and delivery of coal, natural gas and oil to Duke Energy’s generation fleet, as well as the wholesale
trading function related to power and natural gas. I managed the fleet and system
optimization, energy supply analytics and power trading and dispatch functions.

Prior to working at Duke Energy, I was employed by Progress Energy, Inc. (Progress Energy). I joined Progress Energy in 1999 and held various
leadership roles, including Director of Business Operations and Strategic
Planning, and was employed as an operational auditor for Progress Energy
Service Company. From 2003 to 2005, I was Director of Coal Marketing and
Trading for Progress Fuel Corporation, a former subsidiary of Progress Energy,
where I managed the marketing activities of the unregulated coal and synthetic
fuel operations of Progress Energy. In 2005, I became Vice President of Fuels and
Power Optimization for Progress Energy. Following the Duke Energy/Progress
Energy merger in July 2012, I was named Vice President of Fuels and Systems
Optimization for Duke Energy.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS SENIOR VICE
PRESIDENT OF CUSTOMER SOLUTIONS.

A. As Senior Vice President of Customer Solutions, I am responsible for aligning
customer-focused products, programs, and services to deliver a personalized end-
to-end customer experience that positions Duke Energy for long-term growth. My
duties include development of retail programs, enhanced basic services initiative,
rate design and analysis, customer regulatory strategy and analytics, and data
analytics for all of Duke Energy’s regulated utility operations.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY
PUBLIC SERVICE COMMISSION?
A. No. However, I have previously testified in various fuel and merger-related proceedings before other state regulatory commissions on behalf of Duke Energy's utility operating companies in Florida, and both North and South Carolina.

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

A. The purpose of my testimony is to provide an overview of Duke Energy's Customer Solutions Organization. I also describe the Enhanced Basic Services (EBS) or innovative customer programs and services that are enabled by an Advanced Metering Infrastructure (AMI) technology. I then explain how our Kentucky customers will benefit from the replacement and upgrade of the Duke Energy Kentucky electric and gas metering infrastructure technology (Metering Upgrade) immediately and in the future after full system-wide deployment is achieved.

II. OVERVIEW OF CUSTOMER CARE SOLUTIONS

Q. PLEASE EXPLAIN THE DUKE ENERGY CUSTOMER SOLUTIONS ORGANIZATION AND ITS PURPOSE.

A. The Duke Energy Customer Solutions Organization's purpose is to deliver a personalized end-to-end customer experience by aligning customer-focused programs and services with offering our customers greater convenience, control and transparency. The Customer Solutions Organization focuses on both the collective customer base for all of Duke Energy's utility operating companies, as
well as the specific jurisdictions, to find ways to enhance the overall customer experience.

Q. WHY IS THE DUKE ENERGY CUSTOMER SOLUTIONS ORGANIZATION IMPORTANT?

A. Duke Energy has more than 7.4 million retail customers representing a total population of approximately 24 million across its six state utility territories. As technologies evolve and emerge, our customers have growing expectations of their utility service provider. The Customer Solutions Organization strives to find ways to meet those expectations and give customers the ability to have greater control over how they use energy and interact with Duke Energy.

Duke Energy’s research has shown that our residential customers are concerned about reliability, cost, predictability of cost, renewable energy, and control. Our customers want better communication from their utility and Duke Energy needs to find ways to communicate more proactively with our customers and give them more options and control. Supplying customers with a higher number of updates during outages, sending them bill alerts, starting their service remotely, offering them alternative rate plans, and allowing them to choose their own monthly pay date are all ways that Duke Energy can meet those expectations and continue to be a trusted energy advisor. However, in order to provide for those customer needs, Duke Energy must begin to evolve and change the way it provides its services. That requires investment in technologies that can enable such an evolution. The Metering Upgrade is that first step for Duke Energy Kentucky.
Q. PLEASE BRIEFLY EXPLAIN YOUR UNDERSTANDING OF DUKE ENERGY KENTUCKY’S REQUEST IN THIS PROCEEDING.

A. Duke Energy Kentucky seeks a Certificate of Public Convenience and Necessity (CPCN) to replace and upgrade the existing metering infrastructure technology and also requests various accounting treatments and waivers associated with the deployment. The metering infrastructure upgrade will consist of Itron technologies that were chosen with Duke Energy Kentucky’s unique customer base in mind. Duke Energy Kentucky electric customers will be receiving new AMI meters capable of two-way communication with Duke Energy Kentucky that will enable daily collection of a customer’s hourly interval electricity consumption. Duke Energy Kentucky’s natural gas customers who are also Duke Energy Kentucky electric customers will also receive a natural gas AMI module that will be attached to their current natural gas meter. This module will allow the Company to receive and provide the customer information on their natural gas consumption on a daily basis. Duke Energy Kentucky’s natural gas-only customers will receive a different module that will enable drive-by Automated Meter Reading (AMR). Almost all active Duke Energy Kentucky customers will be included in the metering upgrades, with the exception of some large commercial and industrial accounts that currently have some form of an advanced meter.

III. CUSTOMER PROGRAMS AND SERVICES

Q. WHAT OTHER CUSTOMER BENEFITS ARE ENABLED AND ACHIEVABLE WITH THE METERING UPGRADE?

SASHA J. WEINTRAUB PH.D. DIRECT
The Metering Upgrade will allow us to gather additional information and utilize new capabilities to offer new programs, products, and services to customers that are simply not achievable through the Company's existing meters. The Company has been identifying and developing a suite of EBS to provide to customers enabled by the Metering Upgrade. These programs and services will give customers greater convenience, transparency, and control over their energy usage, while also giving them the opportunity to budget, save time, and money.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY EBS.

A. EBS are customer value-driven programs and services that customers want, need, and have grown to expect from their utility. As technology has developed, so too has the basic expectation of our utility customers who desire greater control over their energy consumption and billing. These programs and services are often mentioned in customer satisfaction surveys as offerings that drive higher customer satisfaction. These programs are enabled through the more frequent customer usage data collection and electric interval information that can be obtained and provided to customers through the Metering Upgrade.

Q. WHAT EBS PROGRAMS AND SERVICES ARE ENABLED WITH THE METERING UPGRADE AND WILL EVENTUALLY BE AVAILABLE TO KENTUCKY CUSTOMERS?

A. The Company has been identifying and developing a suite of EBS that the Metering Upgrade enables and could be provided to Duke Energy Kentucky residential electric customers. Some examples that the Company is developing and that residential electric customers could voluntarily participate in include:
Pick Your Own Due Date (also available to residential natural gas customers who also receive electric service from the Company), Pay As You Go, and Predictive Usage Estimator Alerts.

Q. WHEN WILL THESE PROGRAMS AND SERVICES BE AVAILABLE TO DUKE ENERGY KENTUCKY CUSTOMERS?

A. The AMI technologies selected enables the development of these programs and services. The programs and services will be available once the Metering Upgrade is completed and the individual programs are fully developed. For example, Pick Your Own Due Date and Predictive Usage Estimator Alerts are being developed for other Duke Energy jurisdictions that presently have similar AMI technology deployments as that selected by Duke Energy Kentucky. As such, those two programs are anticipated to be available immediately in Kentucky upon completion of the Metering Upgrade. Pay As You Go will have to be designed specifically for each individual Duke Energy jurisdiction given the varying rules and regulations within each state. Specific approval for this program may also be required, so its availability will be dependent upon timing of both information technology development and regulatory approvals.

Q. WHICH CUSTOMERS WILL BE ABLE TO TAKE ADVANTAGE OF THESE PROGRAMS?

A. These programs will be initially available to residential electric customers. Pick Your Own Due Date will also be available to residential gas customers who also have electric service. As these programs are enabled through AMI technologies, residential gas only customers who will be receiving an AMR device will not be
able to take advantage of these programs. The AMR technology does not have the capability to support these advanced services. And as explained by Duke Energy Kentucky witness Donald Schneider, the Company does not have the electric infrastructure in areas where the Company only serves gas customers making installation of AMI technology not feasible.

**Q. HOW DOES PICK YOUR OWN DUE DATE WORK?**

**A.** Today Duke Energy Kentucky’s customers are assigned a billing cycle based upon Duke Energy Kentucky’s ability to deploy and manage its meter reading personnel to attempt to manually read each and every mechanical meter on a monthly basis. The cycle is determined based upon geographical areas to more efficiently manage meter reading costs. Once a customer is assigned a specific meter reading cycle, the cycle cannot be changed. The result is a customer has no control over when they receive their utility bill during the month.

Pick Your Own Due Date will give customers greater flexibility, choice, and control by allowing them to shift their billing cycle and payment due date to better align with their unique financial situation (e.g. to coincide with paycheck dates, Social Security payments). Customers will be able to decide which day of the month they prefer to pay their electricity bill without being penalized.

**Q. HOW DOES PAY AS YOU GO WORK?**

**A.** Traditionally, customers pay for the energy they previously consumed. Metering technology limited the information a customer had available to prospectively control how much energy they consumed. Although budget billing programs can help streamline the monthly and seasonal volatility in utility expense, customers
still have to pay a lump sum this month for the energy they consumed last month.

Pay As You Go is a voluntary program that is designed to empower interested and eligible customers with greater choice and control regarding bill payments and deposits, with the additional benefit of greater transparency into their energy consumption and costs. Customers enrolled in this program will have the capability to pay for electricity as they use it, rather than paying a large lump sum once every month. With Pay as You Go, customers can choose the amount and frequency at which they pay for their electricity. Customers will be able to access their account on-line to view their account balance payment information and daily electricity usage to give them more insight and help them better manage their energy consumption and avoid high bill surprises. Customers will be able to know the cost of the electricity they consume as they consume it. They will be able to set monthly thresholds to manage their budgets and make more frequent payments when they know they are about to exceed that budgeted amount. Duke Energy Kentucky will be able to provide usage alerts letting customer know they are approaching their balance amount.

The Pay As You Go program is currently in the early stages of development and specific details pertaining to customer eligibility and other terms and conditions for participation are being evaluated. The Pay As You Go Program will be tailored specifically to Kentucky to ensure it complies with regulations, including necessary notices prior to disconnection. Therefore, this program may not be available immediately upon completion of the Metering Upgrade and Duke Energy Kentucky recognizes that separate approval for this program may be
necessary. The Company is not seeking approval for this program as part of this proceeding, but instead intends to seek approval at a later date assuming the AMI deployment is ultimately approved. I only mention it here as an example of the innovative programs, services, and system capabilities enabled with the AMI technology.

Q. **HOW DO THE PREDICTIVE USAGE ESTIMATOR AND ALERTS WORK?**

A. Predictive Usage Estimator and Alerts will offer customers greater transparency into their past and estimated future usage and will conveniently alert customers via email, text, and/or phone when they are approaching or have exceeded their pre-selected usage level for the month. Customers enrolled in this program will be able to view an estimate of the amount of electricity they have used so far during the current billing cycle, as well as the estimated cost of this usage by accessing their Duke Energy Kentucky account information on-line. This program can help customers better manage their electric usage and avoid unexpected high bills. This is not tied directly to Pay As You Go. In other words, all customers with AMI metering will be able to enroll in this program, regardless as to whether or not they are also enrolled in the Pay As You Go program.

Q. **WHAT OTHER NEW INFORMATION WILL BE AVAILABLE TO DUKE ENERGY KENTUCKY CUSTOMERS ON THE PORTAL WEBSITE?**

A. As mentioned above, all customers with AMI meters, both residential and non-residential, will be able to view their hourly (electric) or daily (gas) interval usage data from the previous day on the Duke Energy Kentucky customer web portal.
Using the existing customer portal is the most cost effective and efficient way to make interval usage data available to our customers. The portal presents electric interval data in several different ways: hourly energy use by day or week; daily energy use by billing cycle, month, or week; and average energy use by day-of-week over a billing cycle or month. Customers with multiple electric meters can choose to see their usage broken out by meter. The availability of interval usage data can empower customers to better understand their energy usage and save energy. Duke Energy Kentucky Attachment SHW-1 illustrates the customer usage information available on the customer web portal.

Q. HOW CAN A CUSTOMER USE THIS INFORMATION?

A. The Company expects that some customers will use this increased information to take action to reduce their energy consumption on a timelier basis than if they had to wait until the end of a billing cycle to know how much energy they were using.

Q. ARE THESE CUSTOMER OFFERINGS MANDATORY FOR CUSTOMERS TO USE?

A. No, it is not mandatory for customers to use, enroll, or participate in any EBS customer offerings. While these offerings are all enabled by the Metering Upgrade, it is still the customer’s decision to participate in these offerings.

Q. ARE THERE OTHER POTENTIAL PROGRAMS, PRODUCTS, AND SERVICES THAT YOU FORESEE BECOMING ENABLED THROUGH THE METERING UPGRADE BEING PROPOSED BY DUKE ENERGY KENTUCKY?

A. Yes, there are other potential programs, products and services that we foresee
becoming enabled, such as mobile applications, and AMI enabled rate offerings, but these are still in early design and evaluation phases.

Q. IS DUKE ENERGY KENTUCKY SEEKING COMMISSION AUTHORIZATION TO BEGIN OFFERING ALL OF THESE PROGRAMS IN THIS PROCEEDING?

A. Duke Energy Kentucky is not specifically seeking the Commission’s authorization to begin offering all of these programs in this proceeding. Some of the programs I described, such as Pick Your Own Due Date, will be available upon completion of the Metering Upgrade, while others, like Pay As You Go, are still in the design phase. Duke Energy Kentucky recognizes that some of the programs I described may require Commission approval before the Company can offer the services to its customers. Accordingly, the Company has not provided estimates for costs or benefits associated with these programs and services in this filing.

IV. CONCLUSION

Q. WAS ATTACHMENT SJW-1 PREPARED BY YOU OR UNDER YOUR DIRECTION AND CONTROL?

A. Yes.

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

A. Yes.
VERIFICATION

STATE OF NORTH CAROLINA      )   SS:
COUNTY OF MECKLENBURG        )

The undersigned, Alexander J. ("Sasha") Weintraub, Senior Vice President of Customer Solutions, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony are true and correct to the best of his knowledge, information and belief.

[Signature]
Alexander J. ("Sasha") Weintraub, Affiant

Subscribed and sworn to before me by Alexander J. ("Sasha") Weintraub on this 25th day of April, 2016.

[Signature]
NOTARY PUBLIC

My Commission Expires: June 17, 2017
Customer Usage Data
From Duke Energy Customer Portal

Account Summary

Account Status as of 9/9/2014

Last Payment Received $200.00
7/31/2014 - Thank you!

Amount Due $0.00

Bill Summary ending 7/18/2014

Previous Balance/Other Charges $0.00
Budget Billing/Equal Payment Plan Amount $173.00

Last bill amount due 8/11/2014 ($63.14)

For more detailed information on your bill, please see the links under Billing & Payment.

How does my home use energy?

Get personalized information on how you use your energy.

Complete a quick home profile for personalized information!
Daily Energy Usage

To change Meter, Graph, or Date, make new selections from the options below.

**Meter:**

**Graph:** Hourly Energy Usage

**Date:** 08/04/2014

**Period:** Week

**Export Data**

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Hourly Energy Usage

Use your daily charts first to identify the days with the highest energy usage, then continue to these hourly charts to identify key hours of energy usage.

**Terms And Conditions**
Daily Energy Usage

To change Meter, Graph, or Date, make new selections from the options below.

<table>
<thead>
<tr>
<th>Meter:</th>
<th>Date: 08/04/2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graph: Daily Energy &amp; Average</td>
<td></td>
</tr>
</tbody>
</table>

Period: Billing Cycle Month Week

Look for trends or irregularities in the daily usage bars, relative to one another and to the average. Look to the Day-Of-Week chart for confirmation.

Terms And Conditions
Average Energy Usage
Viewable by Day-of-Week over a Billing Cycle or Month Timeline

Daily Energy Usage

To change Meter, Graph, or Date, make new selections from the options below.

- **Meter:**
- **Graph:** Average Energy by Day-of-Week
- **Date:** 08/04/2014

**Period:**
- Billing Cycle

Average Energy by Day-of-Week

Look for trends or irregularities. Are your weekdays pretty even or does one stand out? How about weekends?

Terms and Conditions