



DUKE ENERGY CORPORATION

139 East Fourth Street
1212 Main
Cincinnati, OH 45201-0960
Telephone (513) 287-4315
Facsimile (513) 287-4385

Kristei Cocanoughier
Sr. Paralegal
E-mail: Kristen.cocanoughier@duke-energy.com

VIA OVERNIGHT DELIVERY

September 22, 2011

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
211 Sower Blvd
Frankfort, KY 40601

RECEIVED

SEP 23 2011

PUBLIC SERVICE
COMMISSION

Re: Case No. 2010-00176
Michael T. Moore vs Duke Energy Kentucky, Inc.

Dear Mr. Derouen:

Enclosed please find an original and twelve copies of the Responses of Duke Energy Kentucky, Inc. to Commission Staffs Second Set of Data Requests in the above captioned case.

Please date-stamp the two copies of the letter and return to me in the enclosed envelope.

Sincerely,

Kristei Cocanoughier

cc: Larry Cook (w/enclosures)
Michael Moore (w/enclosures)

VERIFICATION

State Of Ohio)
) **SS:**
County of Hamilton)

The undersigned, Avery A. Adams, being duly sworn, deposes and says that he is the Manager of SmartGrid AMI Planning, that he has supervised the preparation of the responses to the foregoing information requests; and that the matters set forth in the foregoing responses to information request are true and accurate to the best of his knowledge, information and belief, after reasonable inquiry.


Avery A. Adams, Affiant

Subscribed and sworn to before me by Avery A. Adams on this 20th day of September 2011.

ADELE M. DOCKERY
Notary Public, State of Ohio
My Commission Expires 01-05-2014


NOTARY PUBLIC

My Commission Expires: 1/5/2014

VERIFICATION

State of Ohio)
)
County of Hamilton)

SS:

The undersigned, Charlie T. Ploeger, being duly sworn, deposes and says that he is the Lab Supervisor, Service Delivery, that he has supervised the preparation of the responses to the foregoing information requests; and that the matters set forth in the foregoing response to information request are true and accurate to the best of his knowledge, information and belief, after reasonable inquiry

Charlie T. Ploeger
Charlie T. Ploeger, 'Affiant

Subscribed and sworn to before me by Charlie T. Ploeger on this 19 day of September 2011.

ADELE M. DOCKERY
Notary Public, State of Ohio
My Commission Expires 01-05-2014

Adele M. Dockery
NOTARY PUBLIC

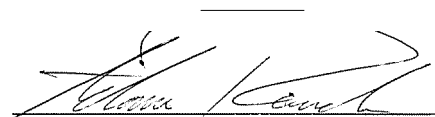
My Commission Expires: 1/5/2014

VERIFICATION

Commonwealth of Kentucky)
)
County of Boone)

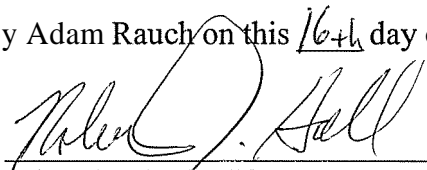
SS:

The undersigned, Adam Rauch, being duly sworn, deposes and says that he is the Coordinator, Customer Projects, that he has supervised the preparation of the responses to the foregoing information requests; and that the matters set forth in the foregoing responses to information request are true and accurate to the best of his knowledge, information and belief, after reasonable inquiry.



Adam Rauch, Affiant

Subscribed and sworn to before me by Adam Rauch on this 16th day of September 2011.



NOTARY PUBLIC
Robert T. Hall

My Commission Expires: 9/11/2013
State of Kentucky
Notary at Large

TABLE OF CONTENTS

<u>DATA REQUEST</u>	<u>WITNESS</u>	<u>TAB NO.</u>
STAFF-DR-02-001	Adam Rauch	1
STAFF-DR-02-002	Avery A. Adams	2
STAFF-DR-02-003	Charlie Ploeger	3
STAFF-DR-02-004	Charlie Ploeger	4
STAFF-DR-02-005	Charlie Ploeger	5
STAFF-DR-02-006	Charlie Ploeger	6
STAFF-DR-02-007	Charlie Ploeger	7

REQUIEST:

Duke's June 6, 2011 Answer states that meter number 108011234 was installed on or about February 26,2010.

- a. State when Duke determined that meter number 108011234 was not registering the voltage properly.
- b. Was there any test that Duke could have or should have performed to determine if meter number 108011234 was registering the voltage properly at the time of installation?
- c. State how Duke determined that an additional lug was required in the meter base of meter number 108011234 for the meter to register the voltage properly.
- d. Complainant states that the meter was changed on approximately October 10, 2010 and Duke states the meter was changed on approximately February 26, 2010. Explain the discrepancy in these dates.
- e. Explain why Duke contends it should not have responsibility for paying some or all of the costs of the additional lug, given that it appears Duke changed the meter on its own initiative and not at the request of the Complainant.

RESPONSE:

- a. June 25, 2010.
- b. The meter base installation is performed by an electrician on behalf of the customer or builder at the time of original construction. The meter base was not properly installed by the customer/builder's electrician initially. The electrician should have inspected the meter base and noticed the defect. A state inspector would have inspected the installation of the meter base prior to Duke Energy Kentucky installing the meter at the premises. The state inspector also should have noticed the defect in the meter base - the state inspector did not. Duke Energy Kentucky should have noticed the defect in the meter base when it installed the initial analog meter at the premises in August 2000. The

Company did not. The analog meter was only registering a partial load, but the Company was not aware of this because it was a new installation and the meter was working out of the box. In 2010, when the meter was selected for a random inspection, the Company was installing new digital meters, as the analog meters were being phased out. It was then that the Company noticed that the new meter was not registering the load properly and discovered that the meter base was not properly installed.

- c. Service voltage to the meter base and building is 208/120v which requires a fifth lug in the meter base in order for Duke Energy's meters to properly register the incoming voltage.
- d. Per Duke Energy's records, the meter was changed on February 26, 2010. Duke Energy is not sure where the customer received his information from.
- e. The meter base is customer-owned equipment and it is the responsibility of the customer to install and maintain the meter base (per Duke Energy Kentucky's Electric Tariff, K.Y.P.S.C. Electric No 2, First Revised Sheet No. 21. Section II Paragraph 6; and Section 111). If there are problems with the meter base, the customer is responsible for fixing them.

The meter was not changed at Duke Energy Kentucky's initiative. Duke Energy Kentucky changed the meter in accordance with 807 KAR 5:041 Section 15. This particular meter was chosen to be randomly tested. Normally, Duke Energy Kentucky tests the meters in the field, adjusts them if needed, and resets them in the meter base. However, meters at this voltage are difficult to adjust in the field, so Duke Energy Kentucky changes the meter and tests the old ones in a lab.

PERSON RESPONSIBLE: Adam Rauch

REQIJEST:

If Duke has initiated a system-wide project to replace analog meters with digital meters, provide the following information:

- a. The date that analog meters began being replaced and the anticipated date to complete the meter replacements.
- b. The number of analog electric meters replaced during each year since the replacements began through July 31,2011.
- c. The number of analog meters projected to be replaced each year from August 1,2011 through the completion of the replacement project.
- d. If not provided elsewhere, provide a detailed discussion of Duke's plans for the analog meter replacement.

RESPONSE:

- a. Duke Energy Kentucky started a pilot deployment of an Advanced Metering Infrastructure (AMI) solution in Boone and Kenton Counties, Kentucky in April of 2007, which included installation of digital electric meters and gas modules with two-way communications functionality. There were 36,023 electric meters and 25,237 gas modules that were installed as part of this project. The project concluded in March of 2008. Duke Energy Kentucky has installed a minimal number of digital electric meters and gas modules in Kentucky since the completion of the project (mostly completing project areas with hard to access meters).
- b. The Two-Way Automatic Communications System (TWACS) project was a one year AMI project, which began April 2007 and completed March 2008.
- c. At this point, we are projecting that Duke Energy Kentucky will not install any additional digital meters in a Kentucky AMI program until a review of other AMI technology solutions by Duke Energy and the state of Kentucky. Duke Energy Kentucky does not

have a detailed plan at this time in regards to the number of meters it would install each year.

- d. As stated above, the digital meters that have been installed to-date in Kentucky were part of a project of an AMI solution that was chosen in 2006 and installed in 2007/2008. Duke Energy Kentucky is currently reviewing other AMI technology solutions to determine the appropriate AMI solution that it would deploy as a full-scale deployment in Kentucky. The date is to be determined.

PERSON RESPONSIBLE: Avery Adams

REQUEST:

Prior to the replacement of meter number 108011234, did Duke recognize that some existing meter bases would need to be changed to be compatible with the new digital meters?

- a. If yes, describe the procedures adopted to identify the bases that would need to be changed and the timing and manner of customer notice, and provide copies of any such procedures that are in writing.
- b. If no, when did Duke first recognize that some meter bases would need to be changed and how did Duke become aware of this?
- c. Provide an analysis of the cost to replace the analog meters with digital meters.

RESPONSE :

No.

- a. N/A
- b. The only time meter bases are required to be changed is when they are found to be unsafe or defective. In this case, the meter base was found to be missing the neutral connection. This meter base is part of a ganged meter base unit serving multiple apartment units. Duke Energy Kentucky believes that this position of the ganged meter base was not connected properly when installed. The defect was not detected by the installing electrician, the electrical inspector, or the Duke Energy Kentucky personnel who connected the service. It should be noted that the meter installation at this address is not the common residential style 240/120 volt installation. The service to this building is fed from a three phase 208/120 volt distribution transformer. The common portion (owner's responsibility) of the building uses three phase power. Each apartment is supplied with single phase 208/120 volt service. For this type of single phase service, a modification must be made to the standard residential meter base to add a "fifth terminal" neutral connection for the meter. An analog meter will register partial load without the neutral connection. The digital meter will not register at all if the neutral connection is missing. Both analog and digital meters require the neutral connection to register properly.

- c. Nearly all new commercially available electric meters are digital solid state electronic meters. Itron, Inc., the manufacturer of most meters purchased by Duke Energy Kentucky, has not made an analog meter since approximately 2000, nor has Duke Energy Kentucky purchased an analog meter since 2000. Duke Energy Kentucky has not performed an analysis to compare the cost of replacing all analog meters in the field with digital meters. The installation cost of replacing an in-service analog meter with a digital meter is the same as replacing the in-service analog meter with a recycled analog meter, with the exception of the purchase cost of the new meter.

PERSON RESPONSIBLE: Charlie Ploeger

**Duke Energy Kentucky
Case No. 2011-176
Staff Second Set Data Request
Date Received: September 14,2011**

STAFF-DR-02-004

REQUEST:

How many meter bases needed to be changed as of July 31, 2011 to accommodate digital meters, and how many are anticipated to need changing during the remainder of the meter replacement project?

RESPONSE:

No meter bases will require change unless they are found to be unsafe or defective. If Duke Energy Kentucky does decide to implement a digital meter replacement program, it anticipates that a very small percentage of meter bases will be found to be unsafe or defective.

PERSON RESPONSIBLE: Charlie Ploeger

**Duke Energy Kentucky
Case No. 2011-176
Staff Second Set Data Request
Date Received: September 14,2011**

STAFF-DR-02-005

REQUEST:

In each case to date where the meter base needed to be changed to accommodate a digital meter, was the customer responsible for having the base changed and for the full cost? If no, explain the number of exceptions and the circumstances of each one.

RESPONSE:

Unless the meter base is found to be unsafe or defective, no meter base change is required. The customer is responsible for the full cost to repair a meter base. It should be noted that the meter installation at this address is not the common residential style 240/120 volt installation. The service to this building is fed from a three phase 208/120 volt distribution transformer. The common portion (owner's responsibility) of the building uses three phase power. Each apartment is supplied with single phase 208/120 volt service. For this type of single phase service, a modification must be made to the standard residential meter base to add a "fifth terminal" neutral connection for the meter. An analog meter will register partial load without the neutral connection. The digital meter will not register at all if the neutral connection is missing. Both analog and digital meters require the neutral connection to register properly.

PERSON RESPONSIBLE: Charlie Ploeger

**Duke Energy Kentucky
Case No. 2011-176
Staff Second Set Data Request
Date Received: September 14,2011**

STAFF-DR-02-006

REQJEST:

Explain why Duke contends it should not have responsibility for paying some or all of the costs to replace a meter base that is not damaged and that functions properly with the customer's existing analog meter.

RESPONSE:

The Complainant's meter base was found to be defective. It should be noted that the meter installation at this address is not the common residential style 240/120 volt installation. The service to this building is fed from a three phase 208/120 volt distribution transformer. The common portion (owner's responsibility) of the building uses three phase power. Each apartment is supplied with single phase 208/120 volt service. For this type of single phase service, a modification must be made to the standard residential meter base to add a "fifth terminal" neutral connection for the meter. **An** analog meter will register partial load without the neutral connection. The digital meter will not register at all if the neutral connection is missing. Both analog and digital meters require the neutral connection to register properly.

PERSON RESPONSIBLE: Charlie Ploeger

REQUEST:

Complainant's complaint alleges that the building at 330 Center Street, Rellevue, Kentucky has approximately 30 meters.

- a. How many analog electric meters has Duke replaced with digital meters at 330 Center Street, Bellevue, Kentucky? Provide a listing of the meter numbers replaced, the replacement meter number, and the dates replaced.
- b. If all of the analog electric meters have not been replaced with digital meters at 330 Center Street, Bellevue, Kentucky, does Duke intend to replace all of the remaining analog electric meters with digital meters at that location?
- c. Has Duke required that the Complainant assume the costs of all meter base replacements for all of the analog electric meters that have been replaced with digital meters at 330 Center Street, Rellevue, Kentucky? If not, explain the amounts that Complainant has been required to pay and the basis for the requirement.

RESPONSE:

- a. Eight of the meters have been changed from analog to digital meters. Please see Staff-DR-02-007 Attachment.
- b. No, Duke Energy Kentucky does not have a program to replace the remaining analog meters at this time.
- c. To date, only one base has been determined to be defective The Complainant was required to repair the meter base for apartment 3A only because the meter base had not been properly installed from the outset. The need to replace/ repair the meter base was not caused by the installation of the digital meter. The fact that the digital meter was not functioning was what prompted Duke Energy Kentucky to investigate and discover the improper installation of the base by the electrician who performed the original installation.

PERSON RESPONSIBLE: Charlie Ploeger

METER S/N	Digital/Analog	MANUFACTURER TYPE	CITY	STATE	STREET NUMBER	STREETNAME	SERVICEADDR LINE2	REMOVEDATE
97227236	Analog	SL12S	BELLEVUE	KY	330	CENTER	APT: 1	30-Jun-08
106938784	Digital	CN1S	BELLEVUE	KY	330	CENTER	APT: 1	
68091736	Analog	S12S	BELLEVUE	KY	330	CENTER	APT: 107	09-Oct-09
106967400	Digital	CN1S	BELLEVUE	KY	330	CENTER	APT: 107	
72733746	Analog	V612S	BELLEVUE	KY	330	CENTER	APT: 201	25-Mar-09
106938535	Digital	CN1S	BELLEVUE	KY	330	CENTER	APT: 201	
72631610	Analog	V612S	BELLEVUE	KY	330	CENTER	APT: 205	25-Mar-09
106938570	Digital	CN1S	BELLEVUE	KY	330	CENTER	APT: 205	
72893601	Analog	S12S	BELLEVUE	KY	330	CENTER	APT: 302	26-Feb-10
108011231	Digital	CN1S	BELLEVUE	KY	330	CENTER	APT: 302	
108011234	Digital	CN1S	BELLEVUE	KY	330	CENTER	APT: 3A	
72733509	Analog	V612S	BELLEVUE	KY	330	CENTER	APT: 3A	26-Feb-10
106938523	Digital	CN1S	BELLEVUE	KY	330	CENTER	APT: 5	
72732510	Analog	V612S	BELLEVUE	KY	330	CENTER	APT: 5	25-Mar-09
106938372	Digital	CN1S	BELLEVUE	KY	330	CENTER	APT: 6	
80131588	Analog	S12S	BELLEVUE	KY	330	CENTER	APT: 6	25-Mar-09