VERIFICATION

STATE OF NORTH CAROLINA)
)
COUNTY OF MECKLENBURG)

SS:

The undersigned, Don Schneider, Director – Advanced Metering, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

Don Schneider, Affiant

Subscribed and sworn to before me by Don Schneider on this 5TH day of JULY, 2016.

NOTARY PUBLIC

My Commission Expires: August 25, 2016

VERIFICATION

STATE OF OHIO)
) **SS:**
COUNTY OF HAMILTON)

The undersigned, Kim Glenn, Supervisor of Gas Operations Engineering, being duly sworn, deposes and says that she has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of her knowledge, information and belief.

Kim Glenn, Affiant

Subscribed and sworn to before me by Kim Glenn on this 20th day of June, 2016.

E. Minna Rolfes
NOTARY PUBLIC

My Commission Expires: 7/8/17

NOTARY PUBLIC STATE OF OHIO

E. MINNA ROLFES
Notary Public, State of Ohio
My Commission Expires
July 8, 2017

VERIFICATION

STATE OF OHIO)
) **SS:**
COUNTY OF HAMILTON)

The undersigned, Peggy Laub, Director of Rates & Regulatory Planning, being duly sworn, deposes and says that she has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of her knowledge, information and belief.

Peggy Laub

Peggy Laub, Affiant

Subscribed and sworn to before me by Peggy Laub on this 27TH day of JUNE, 2016.

Adele M. Frisch

NOTARY PUBLIC

ADELE M. FRISCH
Notary Public, State of Ohio
My Commission Expires 01-05-2019

My Commission Expires: 1/5/2019

VERIFICATION

STATE OF NORTH CAROLINA)
) **SS:**
COUNTY OF MECKLENBURG)

The undersigned, Sasha Weintraub, SVP Customer Solutions, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

Sasha Weintraub, Affiant

Subscribed and sworn to before me by Sasha Weintraub on this 5TH day of JULY, 2016.

RITA G KALE NOTARY PUBLIC CATAWBA CO., NORTH CAROLINA

Rita G. Kale
NOTARY PUBLIC

My Commission Expires: 6/17/2017

KYPSC CASE NO. 2016-00152
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Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-001

REQUEST:

Refer to the application, the Direct Testimony of Donald L. Schneider ("Schneider Testimony"), Exhibit DSL-4.

a. Explain how 17 years was chosen as the time period for the analysis.

b. Refer to page 2 of 13.

   1. Provide a breakdown of the cost shown on row 5 as "Electric meters materials."

   2. Refer to page 2 of 13. Provide a breakdown of the cost shown on row 18 as "Annual costs assoc. with Electric meter failures."

RESPONSE:

a. Duke Energy Kentucky chose 17 years as the time period for analysis since this aligned costs and benefits over the proposed 15 year depreciable life of the AMI meters, with a lagging benefit effect and no significant activity in year 1.

b.

   1. For a breakdown of the costs for "Electric meters materials", See AG-DR-01-069(1) Confidential Attachment, Tab "Cash Flow - by Month_Year", Rows 11, 15, 33, 35, and 41.

2. The cost for "Annual costs assoc. with Electric meter failures" assumes a 0.5% annual failure rate and 143,000 meters installed. Duke Energy Kentucky calculated the associated equipment cost by multiplying the failure rate by the number of meters installed multiplied by the average AMI unit cost. The Company calculated the associated labor cost by multiplying the failure rate by the number of meters installed multiplied by the field metering labor rate multiplied by the annual labor inflation amount.

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-002

REQUEST:

Refer to Duke Kentucky's response to Commission Staff's First Request for Information ("Staff's First Request"), Item 2. The response states that of the 1,240 existing advanced meters, 396 are residential customers. State when the advanced meters were installed on the residential accounts and the reasons an advanced meter was necessary for those accounts.

RESPONSE:

Duke Energy Kentucky began upgrading some existing accounts with AMI technology in 2015 and that work continues in 2016. Those meters were installed as normal course of business technology change outs for a limited number of customers (including the 396 residential customers), such as customers with three-phase meters or meters to support load research functions.

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-003

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request for Information, Item 10.c. State whether $25 is the total labor cost to install each meter.

RESPONSE:

$25 is the estimated weighted average total labor cost for electric meter installations. The estimated labor cost is dependent on the type of service provided to the customer (single-phase vs. poly-phase, self-contained metering vs. transformer rated metering, etc.) and not on the type of meter (OpenWay Centron Meter vs. OpenWay Centron Cellular LTE meter). Duke Energy Kentucky will utilize employees for transformer rated and poly-phase metering installations and will conduct a competitive bid process to obtain electric meter installation vendor pricing.

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-004

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 11.b. which relates to the modules described in Exhibit 4 of the Application.

a. The response states that "the battery life, based upon experience, varies from 13 to 20 years." Exhibit 4 of the application, page 3 of 8, states that the batter life is 18 to 20 years for one scheduled transmission per day and is 15 to 17 years for tow scheduled transmissions per day. Page 6 of 8 of Exhibit 4 states "Designed for a 20-year battery life regardless of data collection..." Provide the basis for Duke Kentucky's statement that, "based on experience," the battery life varies from 13 to 20 years.

b. The response states, "The battery life of the module likely will not last two full meter change out/replacement cycles . . . ." Explain the basis for this statement.

c. The response states that "detaching the modules for potential redeployment is not necessary and could potentially damage the devices making them not fit for use." If the attached meter tests satisfactory and is able to be redeployed, explain why it would be necessary to detach the module (i.e., explain why the meter could not be redeployed with the attached module).

d. The response states, "Replacing module batteries is not cost effective when one considers the labor involved and expense associated with inventory and battery

procurement versus simply purchasing new meters with modules." Explain the basis for this statement.

RESPONSE:

a. The basis for the 13 to 20 year battery life can be found on Exhibit 4, Page 7 of 8, Itron states "Hard-to-Read Mobile/Handheld mode… reduces battery life to 18 years with basic security and 13 years with enhanced security".

b. If a module lasts less than 18-20 years (the deployment lifespan of two gas meters based on current gas meter replacement schedule), the Company would need to perform an early service trip to the customer location to replace just a module.

c. Assuming it is cost effective to redeploy a gas meter that tests satisfactorily and that it has remaining life, as opposed to retirement, the module's battery life is not likely to last an entire second meter testing cycle (additional 9-10 years) for the reasons stated in part a. above. The module batteries are encapsulated in a gel solution and it is both difficult and not cost-effective to replace batteries versus retirement of the module itself.

d. See above. The module batteries are encapsulated in a gel solution, therefore, removing and replacing the batteries is not a cost-effective process.

PERSON RESPONSIBLE: Don Schneider (a-b)
Kim Glenn (c-d)

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-005

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 11.e. State whether $22 is the total labor cost to install each module.

RESPONSE:

$22 is the estimated weighted average total labor cost for gas module installations. Duke Energy Kentucky will conduct a competitive bid process to obtain gas module installation vendor pricing.

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-006

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 12. The response provided did not respond to the request. Provide the manufacturer's estimated useful life of the automated metering infrastructure ("AMI") meters Duke Kentucky is proposing to install.

RESPONSE:

The manufacturer does not provide this information (see electric meter device specification sheets in Mr. Don Schneider's Testimony Exhibit 3).

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-007

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 14. The response states that "[t]he quantifiable savings (expense reduction) from the complete AMI deployment will not be fully realized until 2019." Refer also to the application, the Schneider Testimony, Exhibit DSL-3. That exhibit shows operational savings that Duke Kentucky is expected to realize beginning in 2017. Explain why it is appropriate to establish a regulatory asset for the undepreciated value of the electric meters removed from service and inventory but it would not be appropriate to establish a regulatory liability for the savings associated with the metering upgrade until such time as base rates are established in Duke Kentucky's next base rate case.

RESPONSE:

Duke Energy Kentucky considers the undepreciated value of the meters and inventory to be an extraordinary, non-recurring cost and has asked for deferral treatment.

Duke Energy Kentucky has not asked for deferral treatment of other O&M project costs and other O&M recurring costs associated with this project as show on DLS-3 Confidential Attachment. Since Duke Energy Kentucky did not ask for deferral of the O&M associated with the program it would not be appropriate to establish a regulatory liability for the program benefits absent a corresponding deferral of all incremental O&M. Since cost recovery will occur at the time of the Company's next rate case, so too

should the offsetting benefits accrue to customers. The deferral request is simply to assure that the Company is not financially harmed during the deployment period, where because of accounting rules, the Company would otherwise have to take a one-time write-off to the entire undepreciated net book balance of the metering equipment. The actual level of savings achieved will be dependent upon the timing of the Company's next rate case test period in relation to the meter upgrade deployment schedule and could be impacted by numerous unknown scenarios depending upon the Commission's ultimate decision in this proceeding.

PERSON RESPONSIBLE: Peggy Laub

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-008

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 15.a. The response states that the date for the journal entry appearing on page 9 of the Direct Testimony of Peggy A. Laub is March 31, 2016. Confirm that, since the metering upgrade has not begun, and if approved, installation of the new meters would take place over a period of approximately 18 months, the amount of the requested regulatory asset would be less than the $9.6 million shown in Ms. Laub's testimony. If this cannot be confirmed, explain. If this can be confirmed, provide an estimate of the amount of the regulatory asset to be recorded by Duke Kentucky and an undated journal entry.

RESPONSE:

It cannot be confirmed that the regulatory asset will be less than the $9.6 million based on actual March 2016 data. There are various factors that influence the dollar amount. Although the balance of electric meters could decrease as a result of depreciation, it could also increase as a result of new additions. The Company needs to continue its current practices around replacement of traditional electric meters until approval of this CPCN is obtained. Once approval is obtained the Company will stop purchasing traditional meters and will use its existing meter inventory until deployment of new AMI begins. In either event, the Company does not believe the final amount will be materially different than

the estimated $9.6 million. It is anticipated that it will take approximately 3 months after approval to begin deployment.

PERSON RESPONSIBLE: Peggy Laub

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-009

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 15.b. The response states that "[t]he Company is not planning on retiring all gas meters at the end of the AMI deployment." State whether this indicates that some gas meters will be retired at the end of the AMI deployment.

RESPONSE:

The Company does not plan on changing its current policy of changing out gas meters on a nine to ten year cycle unless the Commission changes or waives its current meter testing regulations. Per the testimony of Don Schneider the new gas module will be attached to the existing gas meter for initial deployment. Going forward new gas meters will be purchased with the module already installed. Gas meters will continue to be retired as they are changed out over the nine to ten year cycle.

PERSON RESPONSIBLE: Kim Glenn

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-010

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 19.

a. Will the roughly 6 percent of residential meters which serve customers with over-200 Amp loads be integrated into the proposed RF mesh network?

b. Will these over-200 Amp load-serving meters require in person connect/disconnect?

RESPONSE:

a. Customers with over 200A loads will be integrated into the RF mesh network, unless a meter requires a cellular connection for consistent, reliable communications.

b. Yes. Connection and disconnection of these meters will be performed manually for these meters.

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-011

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 24. State the outage duration required for an outage to be classified as a "sustained outage."

RESPONSE:

IEEE 1366-2012 defines an outage lasting longer than 5 minutes as a "sustained outage". The response to Staff-DR-01-024 should not have included the term "sustained". In terms of the AMI meters' "last gasp" functionality, an outage of any duration can be reported back to Duke Energy Kentucky.

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-012

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 25. The response states that not all in-person disconnections and reconnections will be eliminated and that there will be a cost associated with service to customers who do not have remote disconnect capability. State whether the customers referred to in this response are the 6 percent of residential customers that would not have 200-Amp meters, as provided in the response to Item 19 of Staff's First Request. If not, explain to which customers this response is referring.

RESPONSE:

There will still be some level of cost associated with this service for all gas customers and any electric customer who does not have the remote disconnect capability. This would include the 6 percent of residential customers that do not have 200-Amp service, as well as, other customers who will not have the capability (*e.g.*, larger C&I customers).

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-013

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 27.

a. Would any of the AMI meters in Duke Kentucky's proposal be capable of integrating with a home energy monitoring device ("HEMD"), such as Pacific Gas & Electric's "Stream my Data," which has the ability to display real-time electricity usage, real-time price, and an estimated cost-to-date in the billing cycle?

b. Has Duke Kentucky or any of its affiliates explored offering an HEMD?

c. Is an HEMD offered in any Duke Energy Jurisdiction, and is this something Duke Kentucky could offer?

RESPONSE:

a. Duke Energy Kentucky is not familiar with Pacific Gas & Electric's specific offering, but the Company is finalizing plans for a formal offering with those features to be available to all residential customers with AMI.

b. Yes, Duke Energy Corp. has recently completed an employee trial of a Smart Energy Usage "App". This application allows customers to view real time data from their smart meter, making them more aware of their usage patterns and will offer tips or suggestions on how to reduce their usage. Based on results from this

trial, Duke Energy Corp. is working toward a market ready solution for customers in other jurisdictions.

c. Duke Energy Ohio launched a pilot HEMD program in 2014, but enrollment in that program is no longer offered. Duke Energy Kentucky is considering the program described in Staff-DR-02-013(b) instead.

PERSON RESPONSIBLE: Alexander J. Weintraub

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-014

REQUEST:

Refer to Duke Kentucky's response to Staff's First Request, Item 28, Attachment, page 1 of 1. Explain the statement, "Meter certification occurs 30 to 60 days after the new meter is installed."

RESPONSE:

There is a process that occurs when a new AMI meter is installed before it is considered ready for remote reads to be used for billing. The process requires certain criteria to be met to gain confidence that we are getting consistent reads remotely from the meter. Once the criteria is met, the AMI meter is flagged as "certified" and the customer's bill is rendered using the usage data received remotely from the meter. This process takes approximately 30 to 60 days.

PERSON RESPONSIBLE: Don Schneider

Duke Energy Kentucky
Case No. 2016-00152
Staff's Second Set Data Requests
Date Received: June 17, 2016

STAFF-DR-02-015

REQUEST:

Refer to Duke Kentucky's response to the Attorney General's First Request for Information, Item 74.

a. Refer to the response to Item 74.a. Confirm that the current connect/disconnect charges reflect manual connects/disconnects. If this cannot be confirmed, explain what the current charges reflect.

b. Refer to the response to Item 74.b. The response assumes the existence of an opt-out provision. Given that meter reading costs are currently included in base rates, confirm that Duke Kentucky's response is based on its plans after new base rates are set following completion of the metering upgrade.

c. Refer to the response to Item 74.c. Explain why a customer opting-out would be required to pay any costs that are already "included within customers' existing rates."

RESPONSE:

a. Duke Energy Kentucky currently does not have a separate disconnection charge. Current charges and costs reflect the present state of technology that require manual disconnections and reconnections whether through independent charges or embedded in base rates. Once the remote reconnection/disconnection capability is operational and the Company files its next base rate case, the Company's costs

and charges for meter reading and reconnection/disconnection will be updated to reflect any incremental costs or savings that are achieved.

b. Duke Energy Kentucky's filing does not contemplate a customer opt-out and the cost benefit analysis submitted does not assume one. The Company's response was directed at the Attorney General's question with the hypothetical situation that if such an opt-out was required, those customers who elect to opt out should be required to pay all costs caused by the creation of an opt-out alternative. The Company's metering upgrade cost benefit analysis will change with the creation of an opt-out alternative and the achieved levels of cost savings will be impacted based upon the level of opt-out. The Company's current base rates and tariffed charges reflect the system-wide costs including efficiencies that have been created over the years with the current meter reading technology requiring manual reading/connection/disconnection. A customer opt-out alternative would likely increase the per meter cost for manual readings, reconnections, disconnections, etc., as there would be fewer such customers over which to spread such costs. And the scope of such costs will necessarily change because the meter reading routes and timing of readings will change.

For example, in Case No. 12-2050-EL-ORD, the Public Utilities Commission of Ohio (PUCO) approved a change to the Ohio Administrative Code, effective May, 2014, requiring utilities to implement an advanced metering opt-out procedure and implement tariffs so to charge customers for the costs of such an opt-out in accordance with O.A.C. 4901:1-10-05(J). http://codes.ohio.gov/oac/4901:1-10-05v1

Duke Energy Ohio's opt-out tariff and charges for opting-out were subsequently approved by the PUCO. The PUCO's Order and a copy of the tariff can be found here:

http://dis.puc.state.oh.us/TiffToPDf/A1001001A16D27B45022J00998.pdf

http://dis.puc.state.oh.us/TiffToPDf/A1001001A16F22B60710C05712.pdf

Duke Energy Kentucky believes that customers should know what the cost of opting out will be before the customer chooses whether or not to opt out.

c. Please see response to b. above. Today, the Company's rates reflect, among other things, costs attributed to meter reading based upon the test year of its last base electric and natural gas cases (2007 and 2010 respectively), which may or may not reflect the Company's current costs. Similarly, the Company's next future rate cases will also reflect test year costs. To the extent the Company's next rate case is timed such that the Metering Upgrade is completed, then base rates will reflect any and all savings that have been achieved which would include the reduction in costs for manual meter reading and connection/disconnection. An AMI meter opt-out alternative would require Duke Energy Kentucky to perform separate back-end metering and other functions for those customers than the services performed for the vast majority of customers. The response to AG-DR-01-074(c) assumes that those costs should not be borne by customers who do not elect to opt out of AMI metering.

PERSON RESPONSIBLE: Peggy Laub (a),(b), and (c)
Don Schneider (b)-(c)