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

DUKE ENERGY KENTUCKY, INC.'S SEMI-ANNUAL REPORTING

I. Introduction

In its Order in Case No. 2016-00152 entered on May 25, 2017, the Kentucky Public Service Commission approved a Stipulation between Duke Energy Kentucky, Inc. (Duke Energy Kentucky) and the Attorney General resolving Duke Energy Kentucky's Application for a Certificate of Public Convenience and Necessity (CPCN) to Construct an Advanced Metering Infrastructure (AMI Case), subject to certain Commission modifications. Section 8 of the Stipulation reads:

> "During deployment and continuing for one year from completion of deployment, Duke Energy Kentucky agrees to provide periodic reporting in six month increments regarding the progress of deployment. This semi-annual reporting shall identify the costs incurred during deployment and as contained in and compared to the projected cost benefit analysis submitted in this case. Duke Energy Kentucky shall also report on various non-financial metrics of

benefits that have been achieved during deployment, with context given in terms of percentages of totals, including:

- Number of electric meters installed;
- Number of gas modules installed;
- Number of grid routers installed;
- Number of meter reading routes;
- Failure rate of electric meters;
- Remote routine electric and gas meter reads;
- Remote electric meter disconnection (non-pay);
- Remote connection (non-pay); and
- Remote Read-in/Read-out."[1]

Further, Section 3(c) of the Stipulation reads:

"Duke Energy Kentucky commits to look for opportunities for additional efficiencies and cost savings through the Metering Upgrade Deployment. The Company shall report on its efforts as part of the six month Metering Upgrade Deployment reporting described in section 8."[2]

Pursuant to Section 8 of the Stipulation, Duke Energy Kentucky plans to provide its semi-annual deployment update reports with data as of the end of December and the end of June. The Company began its AMI deployment in August 2017, so this document shall constitute the Company's first semi-annual report on the AMI deployment costs and non-financial metrics from August 2017 through the end of December 2017. This document also includes a description of efficiencies and cost savings pursuant to Section 3(c) of the Stipulation.

[1] Stipulation at 12-13.
[2] Stipulation at 4.

II. AMI Deployment Costs

Duke Energy Kentucky presents "the costs incurred during deployment and as contained in and compared to the projected cost benefit analysis submitted in this case" in Appendix 1. Electric costs are shown on page 1 of Appendix 1, gas costs are shown on page 2, and page three consolidates the electric and gas cost rows from pages 1 and 2 in order to show total deployment costs.

III. AMI Non-Financial Metrics

Duke Energy Kentucky presents "non-financial metrics of benefits that have been achieved during deployment, with context given in terms of percentages of totals" in Appendix 2.

IV. Efficiencies and Cost Savings

Duke Energy Kentucky has identified "opportunities for additional efficiencies and cost savings through the Metering Upgrade Deployment" in the form of discounted material costs, lower labor costs, and lower overhead costs. The discounted material costs are due to the volume of Itron devices being deployed by Duke Energy Corp. across multiple jurisdictions. The Company is currently projecting lower meter installation contract labor due to favorable bidding of work. The deployment anticipates lower project management labor and overhead costs based on sharing resources across multiple AMI efforts in multiple Duke Energy jurisdictions. When Duke Energy Kentucky filed its original application in this case, the Company did not know for certain that those affiliate companies would also move forward with AMI deployments and thereby unlock these efficiencies and cost savings. While the magnitude of these efficiencies cannot yet be quantified, the Company is anticipating such efficiencies will materialize through deployment in Kentucky.

V. Conclusion

Although the Company's initial deployment commenced later than what was initially contemplated due to the timing of the Commission's approval of the Company's CPCN, the Company expects to complete its deployment by the end of 2018, within an approximate eighteen (18) month period as was originally contemplated in the Company's CPCN filing. The Company will continue to provide periodic updates in compliance with the Commission-approved Stipulation.

Respectfully submitted,

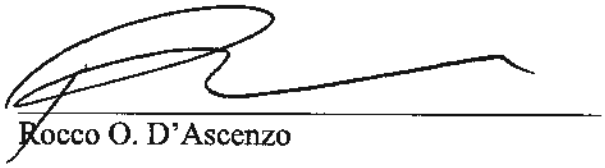
DUKE ENERGY KENTUCKY, INC.

Rocco O. D'Ascenzo (92796)
Deputy General Counsel
Duke Energy Business Services LLC
139 East Fourth Street, 1303 Main
Cincinnati, Ohio 45201-0960
Phone: (513) 287-4320
Fax: (513) 287-4385
E-mail: rocco.d'ascenzo@duke-energy.com
Counsel for Duke Energy Kentucky, Inc.

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing has been served via electronic mail to the following party on this 29th day of March, 2018.

Hon. Rebecca Goodman
Hon. Kent Chandler
Hon. Lawrence Cook
Office of the Attorney General
Utility Intervention and Rate Division
700 Capital Avenue, Suite 20
Frankfort, KY 40601-8204



Rocco O. D'Ascenzo

Duke Energy Kentucky
Compliance with Public Service Commission Order Case No. 2016-00152
Semi-Annual Reporting Non-Financial Metrics of Benefits Achieved During Deployment
Electric

Capital - Program Costs Initial Capital					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
1	AMI/ Smart Meter	Communications	Equipment	Communication device material	$ -	$ 585,632	$ 585,632
2	AMI/ Smart Meter	Communications	Labor	Communication device labor	$ -	$ 7,784	$ 7,784
3	AMI/ Smart Meter	Communications	Labor	Telecom labor	$ -	$ -	$ -
4	AMI/ Smart Meter	Communications	Contingency	Telecom contingency	$ -	$ -	$ -
5	AMI/ Smart Meter	Field Technology	Equipment	Electric meters material	$ 75	$ 9,498,006	$ 9,498,081
6	AMI/ Smart Meter	Field Technology	Labor	Electric meters labor	$ 16,720	$ 566,082	$ 582,802
7	AMI/ Smart Meter	Field Technology	Other	Electric meters - PM/Support	$ 162,301	$ 445,615	$ 607,916
8	AMI/ Smart Meter	Field Technology	Contingency	Meter contingency	$ -	$ -	$ -
9	AMI/ Smart Meter	Eng. & Other Services	Other	Overhead allocations	$ -	$ 150,280	$ 150,280
10	AMI/ Smart Meter	Eng. & Other Services	Other	AFUDC	$ -	$ 2,455	$ 2,455
				TOTAL	$ 179,096	$ 11,255,854	$ 11,434,950

O&M - Program Costs Non-Recurring O&M					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
11	AMI/ Smart Meter	Communications	Equipment	Communication device material	$ -	$ -	$ -
12	AMI/ Smart Meter	Eng. & Other Services	Other O&M	MDM costs	$ -	$ -	$ -
13	AMI/ Smart Meter	Eng. & Other Services	Other O&M	TWACS decommissioning costs (field work)	$ -	$ -	$ -
14	AMI/ Smart Meter	Field Technology	Equipment	Electric meters material and labor	$ -	$ 45,211	$ 45,211
15	AMI/ Smart Meter	Eng. & Other Services	Other O&M	TWACS decommissioning costs (IT work)	$ -	$ -	$ -

Capital - Recurring Costs					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
16	AMI/ Smart Meter	IT	IT - Hardware	Communication device end of life replacement costs	$ -	$ -	$ -
17	AMI/ Smart Meter	Field Technology	Equipment	Annual costs assoc. with communication device failures	$ -	$ -	$ -
18	AMI/ Smart Meter	Field Technology	Equipment	Annual costs assoc. with Electric meter failures	$ -	$ -	$ -
19	AMI/ Smart Meter	Field Technology	Equipment	Material burdens - Electric	$ -	$ -	$ -

O&M - Recurring Costs					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
20	AMI/ Smart Meter	Field Technology	Internal Labor	Duke operational labor (head-end system)	$ -	$ -	$ -
21	AMI/ Smart Meter	Communications	Other O&M	WAN costs	$ -	$ 18,264	$ 18,264
22	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Billing team labor to manage interval reads	$ -	$ -	$ -
23	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Analytics labor to support revenue protection	$ -	$ -	$ -

Non-Project Allocations					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
24	AMI/ Smart Meter	Back Office Systems	Other	MDM & OW Enterprise allocation to DEK (1)	$ 161,956	$ 296,953	$ 458,909

Notes:

(1) MDM and OW Enterprise allocations: for 2016 - gas $41,938 and electric $120,018; for 2017 - gas $121,958 and electric $174,995.

Duke Energy Kentucky
Compliance with Public Service Commission Order Case No. 2016-00152
Semi-Annual Reporting Non-Financial Metrics of Benefits Achieved During Deployment
Gas

Capital - Program Costs Initial Capital					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
1	AMI/ Smart Meter	Field Technology	Equipment	Gas modules material	$ -	$ 3,918,453	$ 3,918,453
2	AMI/ Smart Meter	Field Technology	Labor	Gas modules labor	$ -	$ 483,721	$ 483,721
3	AMI/ Smart Meter	Field Technology	Other O&M	Gas modules - PM/Support	$ -	$ 204,359	$ 204,359
				TOTAL	$ -	$ 4,606,533	$ 4,606,533

O&M - Program Costs Non-Recurring O&M					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
4	AMI/ Smart Meter	Field Technology	Equipment	Gas modules material	$ -	$ 1,595	$ 1,595
5	AMI/ Smart Meter	Field Technology	Labor	Gas modules labor	$ -	$ 4,328	$ 4,328
6	AMI/ Smart Meter	Field Technology	Other O&M	Gas modules - PM/Support	$ -	$ 2,245	$ 2,245
				TOTAL	$ -	$ 8,168	$ 8,168

Capital - Recurring Costs					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
7	AMI/ Smart Meter	Field Technology	Equipment	Annual costs assoc. with Gas modules	$ -	$ -	$ -
8	AMI/ Smart Meter	Field Technology	Equipment	Material burden costs - Gas modules	$ -	$ -	$ -

Duke Energy Kentucky
Compliance with Public Service Commission Order Case No. 2016-00152
Semi-Annual Reporting Non-Financial Metrics of Benefits Achieved During Deployment
Electric & Gas

Capital - Program Costs Initial Capital					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
1	AMI/ Smart Meter	Communications	Equipment	Communication device material	$ -	$ 585,632	$ 585,632
2	AMI/ Smart Meter	Communications	Labor	Communication device labor	$ -	$ 7,784	$ 7,784
3	AMI/ Smart Meter	Communications	Labor	Telecom labor	$ -	$ -	$ -
4	AMI/ Smart Meter	Communications	Contingency	Telecom contingency	$ -	$ -	$ -
5	AMI/ Smart Meter	Field Technology	Equipment	Electric meters material	$ 75	$ 9,498,006	$ 9,498,081
6	AMI/ Smart Meter	Field Technology	Labor	Electric meters labor	$ 16,720	$ 566,082	$ 582,802
7	AMI/ Smart Meter	Field Technology	Other	Electric meters - PM/Support	$ 162,301	$ 445,615	$ 607,916
8	AMI/ Smart Meter	Field Technology	Contingency	Meter contingency	$ -	$ -	$ -
9	AMI/ Smart Meter	Eng. & Other Services	Other	Overhead allocations	$ -	$ 150,280	$ 150,280
10	AMI/ Smart Meter	Eng. & Other Services	Other	AFUDC	$ -	$ 2,455	$ 2,455
11	AMI/ Smart Meter	Field Technology	Equipment	Gas modules material	$ -	$ 3,918,453	$ 3,918,453
12	AMI/ Smart Meter	Field Technology	Labor	Gas modules labor	$ -	$ 483,721	$ 483,721
13	AMI/ Smart Meter	Field Technology	Other O&M	Gas modules - PM/Support	$ -	$ 204,359	$ 204,359
				TOTAL	$ 179,096	$ 15,862,386	$ 16,041,482

O&M - Program Costs Non-Recurring O&M					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
14	AMI/ Smart Meter	Communications	Equipment	Communication device material	$ -	$ -	$ -
15	AMI/ Smart Meter	Eng. & Other Services	Other O&M	MDM costs	$ -	$ -	$ -
16	AMI/ Smart Meter	Eng. & Other Services	Other O&M	TWACS decommissioning costs (field work)	$ -	$ -	$ -
17	AMI/ Smart Meter	Field Technology	Equipment	Electric meters material and labor	$ -	$ 45,211	$ 45,211
18	AMI/ Smart Meter	Eng. & Other Services	Other O&M	TWACS decommissioning costs (IT work)	$ -	$ -	$ -
19	AMI/ Smart Meter	Field Technology	Equipment	Gas modules material	$ -	$ 1,595	$ 1,595
20	AMI/ Smart Meter	Field Technology	Labor	Gas modules labor	$ -	$ 4,328	$ 4,328
21	AMI/ Smart Meter	Field Technology	Other O&M	Gas modules - PM/Support	$ -	$ 2,245	$ 2,245
				TOTAL	$ -	$ 53,379	$ 53,379

Capital - Recurring Costs					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
22	AMI/ Smart Meter	IT	IT - Hardware	Communication device end of life replacement costs	$ -	$ -	$ -
23	AMI/ Smart Meter	Field Technology	Equipment	Annual costs assoc. with communication device failures	$ -	$ -	$ -
24	AMI/ Smart Meter	Field Technology	Equipment	Annual costs assoc. with Electric meter failures	$ -	$ -	$ -
25	AMI/ Smart Meter	Field Technology	Equipment	Material burdens - Electric	$ -	$ -	$ -

O&M - Recurring Costs					Project Actuals		
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	Total
26	AMI/ Smart Meter	Field Technology	Internal Labor	Duke operational labor (head-end system)	$ -	$ -	$ -
27	AMI/ Smart Meter	Communications	Other O&M	WAN costs	$ -	$ 18,264	$ 18,264

28	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Billing team labor to manage interval reads	$ -	$ -	$ -
29	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Analytics labor to support revenue protection	$ -	$ -	$ -

Non-Project Allocations					Project Actuals		
Row #	**Initiative**	**Cost Type**	**Cost Subtype**	**Description**	**2016**	**2017**	**Total**
30	AMI/ Smart Meter	Back Office Systems	Other	MDM & OW Enterprise allocation to DEK (1)	$ 161,956	$ 296,953	$ 458,909

Duke Energy Kentucky
Compliance with Public Service Commission Order Case No. 2016-00152
Semi-Annual Reporting Non-Financial Metrics of Benefits Achieved During Deployment

Metric No	Type	Description	Period	Value
01	Build Metric	Number of Electric Meters Installed	Project	32,322
		Pecent of Planned AMI Electric Meters	ITD	22.6%
02	Build Metric	Number of Gas Modules Installed	Project	24,493
		Percent of Planned AMI Gas Modules	ITD	23.8%
03	Build Metric	Number of Grid Routers Installed	Project	50
		Percent of Planned AMI Grid Routers	ITD	25.0%
04	Operational Metric	Number of Meter Reading Routes	Project	356
		Reduction of Meter Routes from Project Inception	ITD	-3.8%
05	Operational Metric	Failured Electric Meters	Project	8
		Failed Rate of AMI Electric Meters Installed	ITD	0.02%
06	Operational Metric	Remote Routine Electric & Gas Meter Reads	Dec 31,	28,784
		Percent of Remote/Total Remote & Non-Remote Meter Reads	2017	11.7%
07	Operational Metric	Remote Electric Meter Disconnection (Non-Pay)	Dec 31,	61
		Percent of Remote/Total Remote & Non-Remote NPD	2017	17.2%
08	Operational Metric	Remote Connection (Non-Pay)	Dec 31,	38
		Percent of Remote/Total Remote and Non-Remote NPR	2017	13.9%
09	Operational Metric	Remote Read-In/Read-Out (1)	Dec 31,	287
		Percent of Remote/Total Remote & Non-Remote Read In/Out	2017	10.1%

Notes:

(1) Remote Read-in/Read-Out count associated with OpenWay meters is estimated by applying a percent allocation of OpenWay-routine reads to total TWACs and OpenWay Read-in/Read-out orders.