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 ANNUAL PROGRAM REPORTING

I. Introduction

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

> "During deployment, and for three years following completion of deployment, Duke Energy Kentucky agrees to provide annual reporting to the Attorney General and the Commission regarding the development and implementation of products and services designed to engage Duke Energy Kentucky's customers around energy consumption. This annual reporting shall include, but is not limited to, the development of Company portal enhancements, flexible billing programs, and other payment programs. The Company commits to making a monthly usage alert program as described on page 10 of

Company witness Weintraub' s testimony in this Case as soon as practicable following completion of deployment."[1]

Pursuant to Section 8 of the Stipulation Duke Energy Kentucky plans to provide its annual programs, products and services report with data as of the end of June 2018. The Company began its AMI deployment in August 2017. This report reflects data from August 2017 through the end of June 2018.

II. Usage Awareness

Usage alerts are available for Duke Energy Kentucky electric service customers. These alerts require customers to have a certified smart meter and an email address on file with the Company. Eligible customers are automatically enrolled in the program and are sent an email notification half-way through their billing cycle each month. This email shows the customer's actual electricity cost to date and projected electricity costs through the end of their billing cycle, based on their current electricity consumption and rate schedule. It also contains a breakdown of estimated usage to date by major appliance (e.g., HVAC, refrigeration, lighting, etc.) based on the customer's usage, general appliance usage patterns, weather data, and details provided by the customer in their Home Profile.

Customers also have the option to enroll in budget alerts. Budget alerts allow customers to set their desired electricity budget and are notified via emails and/or text messages when they reach 75% and 100% of that amount. As of June 30, 2018, there were 50,052 Duke Energy Kentucky customers enrolled in the usage alert program and 163,655 alerts had been sent to customers.

[1] Stipulation at 12-13.

III. Flexible Billing Programs

Prepaid Advantage is a prepaid energy program that the Company is currently piloting in its Duke Energy Carolinas - South Carolina service territory. This program gives customers an enhanced payment choice, such as prepaying for their power in smaller amounts, while allowing them to avoid deposits and reconnect fees. The Company is currently evaluating whether this program will be available for its customers in Kentucky and other jurisdictions.

IV. Other Programs, Products and Services

Pick Your Own Due Date is a program that allows customers to choose a due date that best meets their personal needs and income stream. The program is available to Duke Energy Kentucky customers that have a certified smart meter and it allows customers to choose a new due date one time per year. As of June 30, 2018, there are 213 Duke Energy Kentucky customers enrolled in the program.

V. Conclusion

The Company will continue to provide updates in compliance with the Commission-approved Stipulation.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.

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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 7th day of September 2018.

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

Rocco O. D'Ascenzo

COMMONWEALTH OF KENTUCKY
BEFORE THE
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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 entered into between Duke Energy Kentucky and the Attorney General in Duke Energy Kentucky's Advanced Metering Infrastructure (AMI) or Metering Upgrade Certificate for Public Convenience and Necessity (CPCN) 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 below."[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. The Company's first semi-annual report on the AMI deployment costs and non-financial metrics was filed in March 2018 with metrics from August 2017 through the end of December 2017. This report reflects metrics through the end of June 2018. 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 the Appendix. Electric costs are shown on page 1 of the Appendix, gas costs are shown on page 2, and page 3 consolidates the electric and gas cost rows from pages 1 and 2 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" on page 4 of the Appendix.

IV. Efficiencies and Cost Savings

In the first semi-annual filing, Duke Energy Kentucky 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 were due to the volume of Itron devices being deployed by Duke Energy across multiple jurisdictions. The Company projected lower meter installation contract labor due to favorable bidding of work. The deployment also anticipated lower project management labor and overhead costs based on sharing resources across multiple AMI efforts in multiple Duke Energy jurisdictions. Currently, the total program costs are projected to come in under $36M compared to $47.5M from the original project estimate. A projected savings of approximately $11.5M.

V. Conclusion

The Company will continue to provide periodic updates in compliance with the Commission-approved Stipulation.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.

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CERTIFICATE OF SERVICE

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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	YTD 2018	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	$ 10,881	$ 18,665
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	$ 6,472,156	$ 15,970,237
6	AMI/ Smart Meter	Field Technology	Labor	Electric meters labor (3)	$ 16,720	$ 577,342	$ 2,483,935	$ 3,077,997
7	AMI/ Smart Meter	Field Technology	Other	Electric meters - PM/Support (3)	$ 162,301	$ 434,355	$ 687,177	$ 1,283,833
8	AMI/ Smart Meter	Field Technology	Contingency	Meter contingency	$ -	$ -	$ -	$ -
9	AMI/ Smart Meter	Eng. & Other Services	Other	Overhead allocations	$ -	$ 150,280	$ 463,134	$ 613,414
10	AMI/ Smart Meter	Eng. & Other Services	Other	AFUDC (1)	$ -	$ 2,455	$ -	$ 2,455
				TOTAL	$ 179,096	$ 11,255,854	$ 10,117,283	$ 21,552,233

O&M - Program Costs Non-Recurring O&M					Project Actuals			
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	YTD 2018	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	$ 61,091	$ 106,303
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	YTD 2018	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	YTD 2018	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	$ 51,118	$ 69,382
22	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Billing team labor to manage interval reads (4)	$ -	$ 8,973	$ 75,216	$ 84,188
23	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Analytics labor to support revenue protection (4)	$ -	$ 25,458	$ 15,070	$ 40,528
				TOTAL	$ -	$ 52,695	$ 141,404	$ 194,099

Non-Project Allocations					Project Actuals			
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	YTD 2018	Total
24	AMI/ Smart Meter	Back Office Systems	Other	MDM & OW Enterprise allocation to DEK (2)	$ 120,018	$ 174,995	$ 77,313	$ 372,326

Notes:

1. AFUDC actuals (row # 10) include electric and gas.
2. MDM and OW Enterprise allocations (row # 24): In the March 2018 filing, these costs included both gas & electric. For this filing, we have moved the gas costs to the gas schedule.
3. Adjustments to 2017 data: $11,260 in Capital Program costs was reclassified from Electric Meters - PM/Support labor (row # 7) to Electric Meters labor (row # 6).
4. Adjustments to 2017 data: O&M Recurring Costs of $8,973 were added to Billing team labor (row # 22) and $25,458 were added to Analytics labor (row # 23). These costs were inadvertently omitted in the March 2018 filing.

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**	**YTD 2018**	**Total**
1	AMI/ Smart Meter	Field Technology	Equipment	Gas modules material	$ -	$ 3,918,453	$ 2,642,910	$ 6,561,363
2	AMI/ Smart Meter	Field Technology	Labor	Gas modules labor (1)	$ -	$ 483,779	$ 1,245,933	$ 1,729,713
3	AMI/ Smart Meter	Field Technology	Other O&M	Gas modules - PM/Support (1)	$ -	$ 204,301	$ 174,013	$ 378,314
				TOTAL	$ -	$ 4,606,533	$ 4,062,856	$ 8,669,389

O&M - Program Costs Non-Recurring O&M					Project Actuals			
Row #	**Initiative**	**Cost Type**	**Cost Subtype**	**Description**	**2016**	**2017**	**YTD 2018**	**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	$ 35,551	$ 39,879
6	AMI/ Smart Meter	Field Technology	Other O&M	Gas modules - PM/Support	$ -	$ 2,245	$ 3,019	$ 5,264
				TOTAL	$ -	$ 8,168	$ 38,570	$ 46,738

Capital - Recurring Costs					Project Actuals			
Row #	**Initiative**	**Cost Type**	**Cost Subtype**	**Description**	**2016**	**2017**	**YTD 2018**	**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	$ -	$ -	$ -	$ -

Non-Project Allocations					Project Actuals			
Row #	**Initiative**	**Cost Type**	**Cost Subtype**	**Description**	**2016**	**2017**	**YTD 2018**	**Total**
9	AMI/ Smart Meter	Back Office Systems	Other	MDM & OW Enterprise allocation to DEK (2)	$ 41,938	$ 121,958	$ 54,055	$ 217,951

Notes:

1. Adjustment to 2017 data: $58 moved from Gas Modules - PM/Support labor (row # 3) to Gas Modules labor (row # 2) in Capital Program costs.

2. MDM and OW Enterprise allocations (row # 9) for gas were included in the electric schedule in the March 2018 filing. The gas costs have been transferred to this schedule.

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	YTD 2018	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	$ 10,881	$ 18,665
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	$ 6,472,156	$ 15,970,237
6	AMI/ Smart Meter	Field Technology	Labor	Electric meters labor	$ 16,720	$ 577,342	$ 2,483,935	$ 3,077,997
7	AMI/ Smart Meter	Field Technology	Other	Electric meters - PM/Support	$ 162,301	$ 434,355	$ 687,177	$ 1,283,833
8	AMI/ Smart Meter	Field Technology	Contingency	Meter contingency	$ -	$ -	$ -	$ -
9	AMI/ Smart Meter	Eng. & Other Services	Other	Overhead allocations	$ -	$ 150,280	$ 463,134	$ 613,414
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	$ 2,642,910	$ 6,561,363
12	AMI/ Smart Meter	Field Technology	Labor	Gas modules labor	$ -	$ 483,779	$ 1,245,933	$ 1,729,713
13	AMI/ Smart Meter	Field Technology	Other O&M	Gas modules - PM/Support	$ -	$ 204,301	$ 174,013	$ 378,314
				TOTAL	$ 179,096	$ 15,862,387	$ 14,180,139	$ 30,221,622

O&M - Program Costs Non-Recurring O&M					Project Actuals			
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	YTD 2018	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	$ 61,091	$ 106,303
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	$ 35,551	$ 39,879
21	AMI/ Smart Meter	Field Technology	Other O&M	Gas modules - PM/Support	$ -	$ 2,245	$ 3,019	$ 5,264
				TOTAL	$ -	$ 53,379	$ 99,662	$ 153,041

Capital - Recurring Costs					Project Actuals			
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	YTD 2018	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	YTD 2018	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	$ 51,118	$ 69,382
28	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Billing team labor to manage interval reads	$ -	$ 8,973	$ 75,216	$ 84,188
29	AMI/ Smart Meter	Eng. & Other Services	Other O&M	Analytics labor to support revenue protection	$ -	$ 25,458	$ 15,070	$ 40,528
				TOTAL	$ -	$ 52,695	$ 141,404	$ 194,099

Non-Project Allocations					Project Actuals			
Row #	Initiative	Cost Type	Cost Subtype	Description	2016	2017	YTD 2018	Total
30	AMI/ Smart Meter	Back Office Systems	Other	MDM & OW Enterprise allocation to DEK - electric	$ 120,018	$ 174,995	$ 77,313	$ 372,326
30	AMI/ Smart Meter	Back Office Systems	Other	MDM & OW Enterprise allocation to DEK - gas	$ 41,938	$ 121,958	$ 54,055	$ 217,951
				TOTAL	$ 161,956	$ 296,953	$ 131,368	$ 590,277

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	Dec-17	Jun-18
01	Build Metric	Number of Electric Meters Installed	Project	32,322	118,600
		Percent of Planned AMI Electric Meters	ITD	22.6%	82.9%
02	Build Metric	Number of Gas Modules Installed	Project	24,493	76,425
		Percent of Planned AMI Gas Modules	ITD	23.8%	74.2%
03	Build Metric	Number of Grid Routers Installed	Project	50	121
		Percent of Planned AMI Grid Routers (1)	ITD	41.3%	100.0%
04	Operational Metric	Number of Meter Reading Routes	Project	356	269
		Reduction of Meter Routes from Project Inception	ITD	-3.8%	-27.3%
05	Operational Metric	Failed Electric Meters	Project	8	220
		Failed Rate of AMI Electric Meters Installed	ITD	0.02%	0.19%
06	Operational Metric	Remote Routine Electric & Gas Meter Reads	Date	28,784	153,456
		Percent of Remote/Total Remote & Non-Remote Meter Reads	Specified	11.7%	62.7%
07	Operational Metric	Remote Electric Meter Disconnection (Non-Pay)	Date	61	429
		Percent of Remote/Total Remote & Non-Remote NPD	Specified	17.2%	79.0%
08	Operational Metric	Remote Connection (Non-Pay)	Date	38	306
		Percent of Remote/Total Remote and Non-Remote NPR	Specified	13.9%	79.3%
09	Operational Metric	Remote Read-In/Read-Out	Date	287	2,950
		Percent of Remote/Total Remote & Non-Remote Read In/Out	Specified	10.1%	63.7%

Note:

1. Initial CGR forecast was refined after the final AMI implementation design was completed in June 2017. Due to the density and strength of the meter mesh, fewer CGRs were needed.