COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF DUKE ENERGY KENTUCKY, INC. FOR AN ADJUSTMENT TO RIDER NM II RATES AND FOR TARIFF APPROVAL	)))	CASE NO. 2025-00258

DIRECT TESTIMONY OF

DOMINIC "NICK" J. MELILLO

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC

August 4, 2025

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dominic "Nick" J. Melillo, and my business address is 139 East Fourth Street, Cincinnati, OH 45202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (DEBS) as Director Distribution Asset Management. DEBS provides various administrative and other services to Duke Energy Kentucky, Inc., (Duke Energy Kentucky or the Company) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I earned a Bachelor of Science degree in Mechanical Engineering from Ohio University in 2000, and a Masters in Business Administration degree from Xavier University in 2012.

Starting in 2001, I worked in various engineering and project manager roles in Duke Energy's power generation organization. In 2014, I transferred to Duke Energy's electric distribution organization. Since 2015, I have held various leadership roles of increasing responsibility in the electric distribution organization.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS DIRECTOR ASSET MANAGEMENT.

A. In my current role, I am responsible for the electric distribution capacity planning,

reliability grid investments, power quality, and maintenance programs for Duke Energy's regulated utility operations in Kentucky, Ohio, and Indiana.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION (COMMISSION)?

A. Yes

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

A. The purpose of my testimony is: (1) to provide an overview of Duke Energy Kentucky's facilities and policies relating to the design, construction, operation, maintenance, and planning of the Company's electric transmission and distribution systems; (2) to explain why Duke Energy Kentucky is proposing to include avoided transmission and distribution costs in this proceeding and to describe the data proposed by Duke Energy Kentucky in this proceeding to calculate avoided transmission and distribution costs; and (3) to support the loss factor values provided by me for use in certain calculations of Company witness Bruce L. Sailers.

II. DUKE ENERGY KENTUCKY'S FACILITIES AND POLICIES RELATING TO DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE OF ITS TRANSMISSION AND DISTRIBUTION SYSTEMS

Q. PLEASE GENERALLY DESCRIBE THE DUKE ENERGY KENTUCKY ELECTRIC DELIVERY SYSTEM.

A. Duke Energy Kentucky's electric delivery system is used, among other things, to deliver retail electric service to approximately 155,000 customers located throughout our service area in the Commonwealth of Kentucky and is spread

throughout five counties in the northern part of the Commonwealth. Duke Energy Kentucky owns and operates all its electric distribution and local transmission facilities.

Its parent, Duke Energy Ohio, Inc. (Duke Energy Ohio) owns and operates, subject to the functional control of PJM Interconnection, LLC, (PJM) the bulk transmission facilities located in Duke Energy Kentucky's service territory. Duke Energy Kentucky owns, operates, and maintains approximately 126 miles of transmission lines operating at 69 kilovolts (kV) and approximately 2,248 miles of primary distribution lines operating at 34.5 kV or lower and approximately 755 miles of secondary distribution circuits operating at 480 volts or below. The electric delivery system also includes approximately 39 combined transmission and distribution substations with a combined capacity of approximately 3,844,000 kVA and various other equipment and facilities.

The Duke Energy Kentucky electric system is interconnected with East Kentucky Power Cooperative via a 69 kV tie line at the Kenton Substation. It is primarily served by transmission facilities within Duke Energy Midwest which, in turn, is directly interconnected with a total of 10 transmission owning utilities, the majority of whom are in PJM or Midcontinent Independent System Operator (MISO).

Duke Energy Kentucky's electric delivery system includes various other equipment and facilities such as control rooms, computers, capacitors, streetlights, meters, and protective, relay and telecommunications equipment and facilities.

Duke Energy Kentucky's electric delivery system provides considerable

flexibility for Duke Energy Kentucky to operate in a manner that provides reliable and economic power to our customers.

Q. PLEASE GENERALLY DESCRIBE HOW THE TRANSMISSION AND DISTRIBUTION SYSTEMS ARE DESIGNED, CONSTRUCTED AND OPERATED.

A. The electric transmission system is designed to deliver bulk electric power from local generating plants and other resources to regional substations, or to interconnect with other systems in order to enhance system reliability. The transmission voltages used by Duke Energy Kentucky are 69 kV and 138 kV. As I previously mentioned, Duke Energy Ohio owns the bulk transmission system in northern Kentucky, consisting of 138 kV and above. There are also two 69 kV circuits in Kentucky owned by Duke Energy Kentucky. The system generally consists of steel towers or wood poles, transmission lines, and substations with power transformers, switches, circuit breakers, and associated equipment. The physical design of the system is generally governed by the National Electrical Safety Code (NESC), which I understand is adopted in Kentucky through KRS § 278.042. The bulk transmission system is under the control authority of PJM, a regional transmission organization approved by the Federal Energy Regulatory Commission (FERC). Under PJM's authority, the bulk transmission system is operated in accordance with the reliability standards developed by the North American Electric Reliability Corporation (NERC) and any regional standards developed by Reliability First Corporation. NERC is the Electric Reliability

Organization designated by the FERC under the Federal Power Act of 2005 to develop mandatory and enforceable reliability standards.

The electric distribution system is designed to receive bulk power at transmission voltages, reduce the voltage to 12.5 kV, and deliver power to customers' premises. The distribution system generally consists of substation power transformers, switches, circuit breakers, wood poles, underground cables, distribution transformers, and associated equipment. The physical design of the distribution system is also generally governed by the NESC.

Duke Energy Kentucky operates the transmission and distribution facilities it owns in accordance with good utility practice. Duke Energy Kentucky continuously runs the system with a workforce that provides customer service 24 hours per day, seven days per week, 365 days per year, including trouble response crews. Duke Energy Kentucky regulates equipment loading in accordance with good utility practice. The Company monitors outages with various systems, such as Supervisory Control and Data Acquisition (SCADA), Distribution Outage Management System (DOMS), and the Distribution Management System (DMS).

Q. PLEASE GENERALLY DESCRIBE HOW DUKE ENERGY KENTUCKY'S TRANSMISSION AND DISTRIBUTION SYSTEMS ARE MAINTAINED.

A. Duke Energy Kentucky maintains its electric transmission and distribution infrastructure in accordance with good utility practice by adhering to inspections, monitoring, testing, and periodic maintenance programs. Examples of these existing programs include, but are not limited to, the following: (1) substation

inspection program; (2) line inspection program; (3) ground-line inspection and treatment program; (4) vegetation management program; (5) underground cable replacement program; (6) capacitor maintenance program; and (7) dissolved gas analysis in substations. Additionally, Duke Energy Kentucky makes capital investments to maintain reliability.

Q. PLEASE GENERALLY DESCRIBE DUKE ENERGY KENTUCKY'S TRANSMISSION AND DISTRIBUTION CAPACITY PLANNING PROCESSES.

A. In its transmission planning, system planners utilize historical distribution substation transformer loading and trends, combined with the Duke Energy Midwest load forecast and resource plan and firm service schedules, to develop models of the transmission system. These models are utilized to simulate the performance of the transmission system under a wide variety of credible conditions to ensure that the expected performance of the transmission system meets both PJM and Duke Energy Kentucky's planning criteria. Should these simulations indicate that a violation of the planning criteria occurs, more detailed studies are conducted to determine the severity of the problem and possible measures to alleviate it. Duke Energy Kentucky's planning criteria is included in our FERC Form 715 "Annual Transmission Planning Evaluation Report", filed with PJM. As members of the PJM Regional Transmission Organization, responsibility for meeting Bulk Electric System (BES) Reliability Standards rests with PJM, who performs studies of the Duke Energy Ohio and Duke Energy

Kentucky transmission systems, as described above, to determine compliance with the BES reliability standards.

In its distribution planning, Duke Energy Kentucky strives to provide safe, reliable, and affordable utility service. Annually, electric system studies are performed to determine where and when system modifications are needed to ensure load is adequately served. To support and improve this effort Duke Energy Kentucky uses a distribution system planning software tool that allows for quicker, more detailed analysis of the system. When these needs are identified, solutions are developed, addressing not only the capacity need, but also providing opportunities to maintain or improve reliability and operating flexibility. Recommendations are made and discussed to ensure a balanced, workable plan has been developed. Specific projects are developed to address areas requiring upgrades and investment.

Q. WHAT IS A "CUSTOMER-GENERATOR" ACCORDING TO THE STATUTES?

A. Subparagraph (1) of KRS 278.465 defines an "eligible customer-generator" as follows:

> *""Eligible customer-generator" means a customer of a retail electric supplier who owns and operates an electric generating facility that is located on the customer's premises, for the primary purpose of supplying all or part of the customer's own electricity requirements."*

According to subparagraph (1)(b) of KRS 278.465, the eligible customer-generator would generate power from an "eligible electric generating facility", which must generate electricity from solar energy, wind energy, biomass or biogas energy, or hydro energy and cannot have a rated capacity above 45 kW.

Q. HOW DOES DUKE ENERGY KENTUCKY INCORPORATE CUSTOMER-GENERATORS INTO ITS DISTRIBUTION AND TRANSMISSION CAPACITY PLANNING PROCESS?

A. Today, Duke Energy Kentucky does not directly incorporate forecasted customer-generator penetration when determining whether to construct additional capacity. To the extent that PJM's load forecasting process incorporates assumptions about behind-the-meter generation, customer-generators are reflected in PJM's load forecast. To the extent that existing customer-generators on the system modify circuit or substation loads, they would be reflected in historic load in the analysis and solutioning to address capacity needs. However, if customer generators are not dispatchable they cannot be relied upon in the future. Utility scale solar installations are backed out of peak loading calculations to ensure the system is capable of supporting the peak load if the utility scale solar generation was not available.

Q. DOES THE COMPANY CONSIDER LOSSES IN ITS TRANSMISSION AND DISTRIBUTION PLANNING?

A. Yes. Accordingly, I provide loss factor values to witness Sailers for use in certain of his calculations. These values can be found on page 6 of the public version of Attachment BLS-1.

III. PROPOSED INCLUSION OF AVOIDED TRANSMISSION AND DISTRIBUTION COSTS

Q. IF DUKE ENERGY KENTUCKY DOES NOT DIRECTLY INCORPORATE INTERMITTENT CUSTOMER-GENERATORS INTO ITS DISTRIBUTION AND TRANSMISSION PLANNING PROCESSES, WHY IS THE COMPANY PROPOSING TO CALCULATE AVOIDED TRANSMISSION AND DISTRIBUTION COSTS IN THIS PROCEEDING?

A. In Duke Energy Kentucky's initial application to establish Rider NM II, the Company explained that it did not avoid any transmission or distribution costs as a result of intermittent net metering customer-generation and accordingly proposed not to include avoided distribution or transmission costs as a component of its Avoided Cost Excess Generation Credit (ACEGC) to net metering customers.[1] However, the Commission ultimately held that the ACEGC should include components for avoided transmission and distribution costs and ordered the Company to use the values that Duke Energy Kentucky had provided in rebuttal testimony at the time.[2] The Commission instructed that in "its next filing . . . the Commission expects Duke Kentucky to file updated and additional evidence in regard to avoided transmission and distribution values."[3] The Commission also stated that "Duke Kentucky should utilize updated avoided transmission capacity and distribution capacity cost information from its 2024

[1] *See In the Matter of the Electronic Application of Duke Energy Kentucky, Inc. for an Adjustment to Rider NM Rates and for Tariff Approval*, Case No. 2023-00413, Direct Testimony of Bruce L. Sailers, pp. 19-21 (Dec. 11, 2023).

[2] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc. for an Adjustment to Rider NM Rates and for Tariff Approval*, Case No. 2023-00413, Order, p. 32 (Ky. P.S.C. Oct. 11, 2024).

[3] *Id.*

IRP filing to reflect more accurate avoided costs in its next filing."[4]

Q. HAS THE COMMISSION GIVEN ANY FURTHER RELEVANT GUIDANCE?

A. Yes. Generally speaking, the Commission has repeatedly expressed a preference for publicly available data.[5]

Q. PLEASE DESCRIBE THE AVOIDED COST INFORMATION THAT WAS PROVIDED TO WITNESS SAILERS TO CALCULATE THE ACEGC COMPONENT FOR AVOIDED TRANSMISSION AND DISTRIBUTION COSTS IN THIS PROCEEDING.

A. The Company's calculation of avoided transmission and distribution capacity costs specifically applicable to the Avoided Cost Excess Generation Credit is included as Attachment NJM-1, Duke Energy Kentucky T and D Avoided Cost Calculation, to my testimony. The file uses installed capacity values from FERC Form 1 (FF1), and actual capital and O&M spend to support the average cost to expand the transmission and distribution systems. This results in a combined avoided transmission and distribution capacity value of $63.62 / kW-year.

[4] *Id.*, p. 33.

[5] *See, e.g., In the Matter of the Electronic Application of Kentucky Power Company for (1) A General Adjustment of its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) Approval of a Certificate of Public Convenience and Necessity; and (5) All Other Required Approvals and Relief,* Case No. 2020-00174, Order, p. 23 & fn. 72 (Ky. P.S.C. May 14, 2021).

Q. WHAT IS THE BENEFIT OF USING ACTUAL RECENT INSTALLED CAPACITY VALUES FROM FERC FORM 1 AND ACTUAL CAPITAL AND O&M SPEND?

A. In addition to being publicly available, this data accurately accounts for ***localized*** load growth, which is not necessarily reflected in forecasts or historical information of Duke Energy Kentucky's ***overall*** load growth. Duke Energy Kentucky is experiencing significant development in specific areas of its service territory in Northern Kentucky where additional capacity and facilities are necessary to provide safe and reliable service. This growth includes new and increased loads from commercial, retail, industrial, and residential customers.

While the Company's total load growth across its entire system may not appear to be changing significantly, this localized growth on specific circuits necessitates investment where the current facilities are not able to support the development.

Q. HOW DOES THIS AVOIDED COST INFORMATION COMPLY WITH THE COMMISSION'S PRIOR GUIDANCE IN CASE NO. 2023-00413?

A. This data is both updated and publicly available. In the information that was provided to Witness Sailers to calculate the ACEGC component for avoided Transmission and Distribution costs, 2024 data from publicly available FF1, internal finance data and publicly available escalation factors are inputs as well as a capital carrying cost.

The Company's 2024 IRP filing did not include "avoided transmission capacity and distribution capacity cost information,"[6] so the Company cannot represent that this data is "from" that filing. However, the inputs into the ACEGC component for avoided Transmission and Distribution costs are based on the most current available data, and represent the actual capacity added to the system and the actual costs to add that capacity.

IV. CONCLUSION

Q. WAS ATTACHMENT NJM-1 PREPARED BY YOU OR AT YOUR DIRECTION?

A. Yes.

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

A. Yes.

[6] *In the Matter of the Electronic Application of Duke Energy Kentucky, Inc. for an Adjustment to Rider NM Rates and for Tariff Approval*, Case No. 2023-00413, Order, p. 33 (Ky. P.S.C. Oct. 11, 2024).

VERIFICATION

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

The undersigned, Nick Melillo, Director PGO Asset Management, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony and that it is true and correct to the best of his knowledge, information and belief.

Nick Melillo Affiant

Subscribed and sworn to before me by Nick Melillo on this 22nd day of July, 2025.

NOTARY PUBLIC

My Commission Expires: July 8, 2027

EMILIE SUNDERMAN
Notary Public
State of Ohio
My Comm. Expires
July 8, 2027

DEK Avoided Transmission & Distribution Cost

	Year of Value 2024$
TRANSMISSION	
Capacity Cost per kW per Year before Capitalization	$58.74
Annualized Capacity Cost per kW per Year	$3.83
System O&M Cost per kW per Year	$1.53
Total Annual Cost per kW	$5.36
DISTRIBUTION	
Capacity Cost per kW per Year before Capitalization	$687.06
Annualized Capacity Cost per kW per Year	$45.30
System O&M Cost per kW per Year	$12.96
Total Annual Cost per kW	$58.26
Total T&D $/kW-year	***$63.62***

DUKE ENERGY KENTUCKY, LLC
TRANSMISSION AND DISTRIBUTION AVOIDED COST

1. INPUT FOR TRANSMISSION
Transmission: Load Growth Related Capital Additions

Line No	Year	Load Growth Related $
1	2018	1,729,114
2	2019	4,632,038
3	2020	22,868,448
4	2021	8,818,219
5	2022	1,228,544
6	2023	3,500,081
7	2024	5,440,975

Source: Compiled by Midwest Transmission Finance, John Metcalf. (7-18-2025)

2. INPUT FOR DISTRIBUTION
Distribution: Load Growth Related Capital Additions

Line No	Year	Load Growth Related $
1	2018	5,525,617
2	2019	20,470,339
3	2020	16,924,980
4	2021	9,522,151
5	2022	14,064,506
6	2023	13,361,050
7	2024	17,524,117

Source: Compiled by Midwest Transmission Finance, John Metcalf. (7-18-2025)

DUKE ENERGY KENTUCKY, LLC
TRANSMISSION AND DISTRIBUTION AVOIDED COST

3. HANDY WHITMAN INDEX (Electric Utility Construction Cost- North Central Region - Duke Energy Portal)
At July 1 of each year 1973 = 100

Line No	July 1, Year	Trans Index	Trans Factor	Distr Index	Distr Factor
		(a)	(b)	(c)	(d)
1	2018	753.0	0.6772	752.0	0.5732
2	2019	771.0	0.6933	774.0	0.5899
3	2020	793.0	0.7131	817.0	0.6227
4	2021	804.0	0.7230	839.0	0.6395
5	2022	898.0	0.8076	933.0	0.7111
6	2023	1054.0	0.9478	1188.0	0.9055
7	2024	1112.0	1.0000	1312.0	1.0000

4. O&M Expenses for Transmission
a) Source: FERC Form 1 p 321 col (b) line 93 for col (a): Transmission Expenses- Operation - Station Expense (acct 562)
b) Source: FERC Form 1 p 321 col (b) line 94 for col (b): Transmission Expenses- Operation - Overhead Lines (acct 563)
c) Source: FERC Form 1 p 321 col (b) line 102 for col (c): Transmission Expenses- Operation - Underground (acct 564). NOTE: currently shows no values
d) Source: FERC Form 1 p 321 col (b) line 102 for col (d): Transmission Expenses- Maintenance - Structures (acct 569)
e) Source: FERC Form 1 p 321 col (b) line 107 for col (e): Transmission Expenses- Maintenance - Station Equipment (acct 570)
f) Source: FERC Form 1 p 321 col (b) line 108 for col (f): Transmission Expenses- Maintenance - Overhead Lines (acct 571)
(g) avoidable Transmission O&M expense

Line No	FERC Acct Year	Operation Station 562 $	Operation Overhead 563 $	Operation Underground 564 $	Maintenance Structures 569 $	Maintenance Equip 570 $	Maintenance Overhead 571 $	Total $
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	2018	148,685	33,532	0	29,250	255,031	428,751	895,249
2	2019	172,155	44,384	0	10,315	141,479	304,632	672,965
3	2020	97,322	41,917	0	28,462	249,717	1,023,598	1,441,016
4	2021	115,176	15,778	0	28,359	180,022	310,946	650,281
5	2022	127,509	116,780	0	27,569	237,523	637,356	1,146,737
6	2023	69,187	78,268	0	17,031	136,516	786,506	1,087,508
7	2024	38,953	98,464	0	22,194	198,525	563,238	921,374

DUKE ENERGY KENTUCKY, LLC
TRANSMISSION AND DISTRIBUTION AVOIDED COST

5. O&M Expenses for Distribution

a) Source: FERC Form 1 p 322 col (b) line 136 for col (a): Distribution Expenses- Operation - Station Expense (acct 582)
b) Source: FERC Form 1 p 322 col (b) line 137 for col (b): Distribution Expenses- Operation - Overhead Lines (acct 583)
c) Source: FERC Form 1 p 322 col (b) line 138 for col (c): DistributionExpenses- Operation - Underground (acct 584)
d) Source: FERC Form 1 p 322 col (b) line 148 for col (b): Distribution Expenses- Maintenance - Station Equipment (acct 592)
e) Source: FERC Form 1 p 322 col (b) line 149 for col (e): Distribution Expenses- Maintenance - Overhead Lines (acct 593), covers overhead accts 364, 365, 369 services
f) Source: FERC Form 1 p 322 col (b) line 150 for col (f): Distribution Expenses- Maintenance - Underground Lines (acct 594), covers underground accts 366, 367, 369 services
g) Accounts 593 and 594 include expenses for Plant in Service - Services acct 369. Acct 369 does not have its own O&M acct; so an amount based upon the Plant in Service is removed from both 593 and 594. See Table 7 below for more details
Col (g) is col (e) reduced by the percentage for Services from Table 7, column (f)
h) is col (f) reduced by the percentage for Services from Table 7, column (f)
i) Total avoidable Distribution O&M expense: sum of columns a through d + g + h

Line No	FERC Acct Year	Operation Station 582 $	Operation Overhead 583 $	Operation Underground 584 $	Maintenance Station 592 $	Maintenance Overhead 593 $	Maintenance Underground 594 $	Maintenance Overhead 593 w/o 369 $	Maintenance Underground 594 w/o 369 $	Distribution Total O&M $
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1	2018	61,654	192,433	318,756	302,347	7,798,853	268,976	7,251,780	250,108	8,377,077
2	2019	32,629	161,521	256,704	368,536	9,463,186	180,861	8,816,588	168,503	9,804,482
3	2020	52,188	341,290	263,049	248,871	6,666,053	238,188	6,221,456	222,302	7,349,156
4	2021	92,075	232,087	352,338	361,551	6,352,091	190,198	5,974,551	178,893	7,191,496
5	2022	99,295	224,989	402,156	362,911	9,286,304	212,988	8,772,386	201,201	10,062,938
6	2023	19,923	236,689	527,015	417,132	6,561,383	280,733	6,199,668	265,257	7,665,684
7	2024	34,849	359,088	629,010	324,855	7,341,418	286,150	6,988,447	272,392	8,608,641

DUKE ENERGY KENTUCKY, LLC
TRANSMISSION AND DISTRIBUTION AVOIDED COST

6. Distribution Plant in Service

Because accounts 593 and 594 include maintenance on Services (account 369) in addition to maintenance on accounts 364 through 367, a reduction is made based upon Plant in Service covered by each account. See Table 8 below concerning FERC coverage

These accounts are selected as being avoidable for Avoided Cost estimation: 364, 365, 366, and 367

a) Source: FERC Form 1 p 205 col (g) line 64 for col (a): Distribution Plant in Service - Poles, Towers, & Fixtures (acct 364)
b) Source: FERC Form 1 p 205 col (g) line 65 for col (b): Distribution Plant in Service - Overhead Conductors & Devices (acct 365)
c) Source: FERC Form 1 p 205 col (g) line 66 for col (c): Distribution Plant in Service - Underground Conduit (acct 366)
d) Source: FERC Form 1 p 205 col (g) line 67 for col (d): Distribution Plant in Service - Underground Conduit & Devices (acct 367)
e) Source: FERC Form 1 p 205 col (g) line 69 for col (e): Distribution Plant in Service - Services (acct 369) which is not separated into Overhead and Underground
(f) is the Ratio of Services to total Plant in Service maintained under accounts 593 & 594: Services as share of the sum of columns a through e

Line No	FERC Acct Year	Poles, Towers, & Fixtures 364 $	Overhead Conductors 365 $	Underground Conduit 366 $	Underground Conductor 367 $	Services 369 $	Ratio Acct 369 % of 364-367 & 369
		(a)	(b)	(c)	(d)	(e)	(f)
1	2018	63,697,773	129,337,051	22,947,112	62,849,021	21,034,978	0.07
2	2019	67,504,649	134,880,040	30,116,966	65,604,173	21,862,707	0.07
3	2020	72,966,758	141,144,880	41,176,284	75,463,130	23,636,085	0.07
4	2021	74,482,036	152,067,838	43,372,544	81,870,581	22,230,247	0.06
5	2022	76,775,574	156,529,479	43,936,408	85,664,699	21,260,357	0.06
6	2023	79,009,021	161,459,055	48,115,495	95,355,408	22,400,638	0.06
7	2024	80,775,296	166,909,974	52,595,299	103,775,441	20,407,980	0.05

DUKE ENERGY KENTUCKY, LLC

AVERAGE COST OF TRANSMISSION O&M

Year	Load Growth Related O&M (a)	HW Factor (d)	Retail Load Growth O&M (2024 $) (e)
2020	$1,441,016	0.7131	$2,020,693
2021	$650,281	0.7230	$899,394
2022	$1,146,737	0.8076	$1,420,013
2023	$1,087,508	0.9478	$1,147,352
2024	$921,374	1.0000	$921,374
Average Annual O&M Expenditures			$1,281,765

Average Annual O&M Expenditures	$1,281,765
2024 System Peak	838
System O&M Cost per kW per Year	$1.53

Expenditures are inflated to 2024$ using the Handy Whitman
North Central Construction Cost Index for Transmission

DUKE ENERGY KENTUCKY, LLC

AVERAGE COST OF TRANSMISSION ADDITIONS

Year	Load Growth Related Additions	HW Factor	Retail Load Growth Related Additions (2024 $)
	(a)	(d)	(e)
2020	$22,868,448	0.7131	$32,067,736
2021	$8,818,219	0.7230	$12,196,343
2022	$1,228,544	0.8076	$1,521,315
2023	$3,500,081	0.9478	$3,692,685
2024	$5,440,975	1.0000	$5,440,975
Average Annual Growth Related Expenditures			$10,983,811
5-Year Average Annual Growth, MW			187.000
Capacity Cost per kW per Year			$58.74
Annualized Capacity Cost per kW per Year			$3.83

Expenditures are inflated to 2024 $ using the Handy Whitman
North Central Construction Cost Index for Transmission

DUKE ENERGY KENTUCKY, LLC

AVERAGE COST OF DISTRIBUTION O&M

Year	Load Growth Related O&M $	HW Factor	Retail Load Growth O&M (2024 $)
	(a)	(b)	(c)
2020	$7,349,156	0.6227	$11,801,827
2021	$7,191,496	0.6395	$11,245,820
2022	$10,062,938	0.7111	$14,150,669
2023	$7,665,684	0.9055	$8,465,806
2024	$8,608,641	1.0000	$8,608,641
Average Annual O&M Expenditures			$10,854,553

Average Annual O&M Expenditures	$10,854,553
2024 Diversified Peak	838
System O&M Cost per kW per Year	$12.96

Expenditures are inflated to 2024 $ using the Handy Whitman
North Central Construction Cost Index for Distribution

DUKE ENERGY KENTUCKY, LLC

AVERAGE COST OF DISTRIBUTION ADDITIONS

Year	Load Growth Related Additions $ (a)	HW Factor (b)	Retail Load Growth Related Additions (2024 $) (c)
2020	$16,924,980	0.6227	$27,179,404
2021	$9,522,151	0.6395	$14,890,420
2022	$14,064,506	0.7111	$19,777,740
2023	$13,361,050	0.9055	$14,755,638
2024	$17,524,117	1.0000	$17,524,117
Average Annual Growth Related Expenditures			$18,825,464
5-Year Average Annual Growth, MW			27.400
Capacity Cost per kW			$687.06
Annualized Capacity Cost per kW per Year			$45.30

Expenditures are inflated to 2024 $ using the Handy Whitman
North Central Construction Cost Index for Distribution

DUKE ENERGY KENTUCKY, LLC

Transmission & Distribution Capacity Added - FERC Form 1

DEK Retail Peaks

Year	Retail Peaks MW	Annual Incremental Transmission MW	Annual Incremental Distribution MW	Total Transmission Capacity MW/MVA	Total Distribution Capacity MW/MVA
2019				1664	1142
2020	809	**180**	**59**	1844	1201
2021	838	**355**	**33**	2199	1234
2022	831	**400**	**0**	2599	1234
2023	834	**0**	**11**	2599	1245
2024	877	**0**	**34**	2599	1279
Peak & 5-Year Average Annual Growth, MW	837.80	187.00	27.40		

Source: Nick Melillo - FERC Form 1 data; Joe Gilpin - Retail Peaks

DUKE ENERGY KENTUCKY, LLC

Real Levelized Fixed Charge Rate

	DEK
Transmission (Real LFCR %)	6.517%
Distribution (Real LFCR %)	6.593%

Source: Jennifer Poppler/Kathy Abernethy, Wholesale & Renewables Analytics