COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF DUKE ENERGY KENTUCKY, INC. FOR AN ADJUSTMENT TO RIDER NM RATES AND FOR TARIFF APPROVAL	)))	CASE NO. 2023-000413

O R D E R

On December 19, 2023,[1] Duke Energy Kentucky, Inc. (Duke Kentucky) filed an application to revise its current Net Metering Rider tariff to remove the interconnection guidelines from the rider and rename it Net Metering I Rider (Rider NM-1). Additionally, Duke Kentucky sought Commission approval for two new tariffs, Rider Net Metering II (Rider NM-2) and Interconnection. Duke Kentucky is a jurisdictional electric utility that generates, transmits, distributes, and sells electricity to approximately 152,455 consumers in Boone, Campbell, Grant, Kenton, and Pendleton counties.[2]

On January 5, 2024, the Commission determined that an investigation was necessary to determine the reasonableness of the proposed tariff, found that the investigation could not be completed by January 19, 2024,[3] and suspended the effective date of the proposed tariff for five months, up to and including June 18, 2024.[4] On the

[1] Duke Kentucky tendered its application on December 11, 2023. A deficiency letter was issued on December 14, 2023, and again on December 19, 2023. Duke Kentucky resolved the deficiency on the December 19, 2023, and the application was deemed filed.

[2] *Annual Report of Duke Kentucky to the Public Service Commission for the Year Ending December 31, 2022* (2022 Annual Report) at 4, 5.

[3] Duke Kentucky proposed an effective date of January 11, 2024. However, the effective date must be at least 30 days from the filing date, making January 19, 2024, the earliest possible effective date.

[4] Order (Ky. PSC Jan. 5, 2024).

same date, the Commission also established a procedural schedule in this case.[5] The Attorney General of the Commonwealth of Kentucky, by and through the Office of Rate Intervention (Attorney General); Kentucky Solar Industries Association, Inc. (KYSEIA); and Kentucky Solar Energy Society (KYSES) and Kentuckians for the Commonwealth (KFTC) (jointly, Joint Intervenors) requested and were granted intervention in this matter.[6] Additionally, numerous public comments have been filed in this case.[7]

Duke Kentucky responded to ten rounds of requests for information, including three post-hearing requests for information.[8] Duke Kentucky filed direct and rebuttal testimony.[9] Joint Intervenors filed Direct Testimony of Dr. Richard McCann.[10]

[5] Order (Ky. PSC Jan. 5, 2024).

[6] Order (Ky. PSC Dec. 21, 2024) (Order granting the Attorney General intervention); Order (Ky. PSC Jan. 12, 2024) (Order granting KYSEIA's request for intervention); Order (Ky. PSC Jan. 29, 2024) (Order granting Joint Intervenors' request for intervention).

[7] View Public Comments for: 2023-00413 (ky.gov). Last checked on Sept. 10, 2024.

[8] Duke Kentucky's Response to Commission Staff's First Request for Information (Staff's First Request) (filed Feb. 2, 2024); Duke Kentucky's Responses to Attorney Generals' First Request for Information (Attorney General's First Request) (filed Feb. 2, 2024); Duke Kentucky's Response to KYSEIA's First Request for Information (KYSEIA's First Request) (filed Feb. 2, 2024); Duke Kentucky's Response to Joint Intervenors' First Request for Information (Joint Intervenors' First Request) (filed Feb. 2, 2024); Duke Kentucky's Response to Commission Staff's Second Request for Information (Staff's Second Request) (filed Mar. 5, 2024); Duke Kentucky's Responses to KYSEIA's Second Request for Information (KYSEIA's Second Request) (filed Mar. 6, 2024); Duke Kentucky's Response to Joint Intervenors' Second Request for Information (Joint Intervenors' Second Request) (filed Mar. 6, 2024); Duke Kentucky's Response to Commission Staff's Third Request for Information (Staff's Third Request) (filed Mar. 22, 2024); Duke Kentucky's Response to Commission Staff's Fourth Request for Information (Staff' Fourth Request) (filed Apr. 10, 2024); Duke Kentucky's Response to Commission Staff's Fifth Request for Information (Staff's Fifth Request) (filed May 14, 2024); Duke Kentucky's Response to Commission Staff's First Post-Hearing Request for Information (Staff's First Post-Hearing Request) (filed June 7, 2024); Duke Kentucky's Response to KYSEIA's First Set of Post-Hearing Request for Information (KYSEIA's First Post-Hearing Request) (filed June 7, 2024); Duke Kentucky's Response to Commission Staff's Second Post-Hearing Request for Information (Staff's Second Post-Hearing Request) (filed June 26, 2024).

[9] Direct Testimony of Bruce L. Sailers (Sailers Direct Testimony) (filed Dec. 11, 2023) Rebuttal Testimony of Bruce L. Sailers (Sailers Rebuttal Testimony) (filed Apr. 17, 2024).

[10] Direct Testimony of Dr. Richard McCann (McCann Direct Testimony) (filed Mar. 13, 2024).

A hearing was held on May 21, 2024. On May 24, 2024, a post-hearing procedural schedule was established. On June 26, 2024, all parties filed memorandum briefs. On July 18, 2024, all parties, with the exception of the Attorney General, filed response briefs.

This matters now stands before the Commission for decision.

LEGAL STANDARD

Duke Kentucky filed its revised Rider NM-1 and proposed Rider NM-2 pursuant to KRS 278.180, KRS 278.190, and 807 KAR 5:011. The Commission's standard of review of a utility's request for a tariff is well established. In accordance with statutory and case law, Duke Kentucky is allowed to charge its customers "only 'fair, just and reasonable rates.'"[11] Further, Duke Kentucky bears the burden of proof to show that the proposed tariff is just and reasonable, under KRS 278.190(3).

The review of Rider NM-1 and Rider NM-2, particularly the export rate for energy exported onto the electric grid, is governed by KRS 278.465 and 278.466. In accordance with KRS 278.465(1)–(2), Rider NM-1 and Rider NM-2 apply to eligible customer-generators who own and operate an electric generating facility with a rated capacity of 45 kW or less that is located on the customer's premises for the primary purpose of supplying all or part of the customer's own electricity requirements. Pursuant to KRS 278.466(3), customers taking service under Rider NM-2 will be compensated for electricity fed into the grid over a billing period at a rate set by the Commission using ratemaking processes authorized by KRS Chapter 278 in a proceeding initiated by a retail electric supplier. KRS 278.466(4) provides that compensation:

> [S]hall be in the form of a dollar-denominated bill credit. If an eligible customer-generator's bill credit exceeds the amount

[11] KRS 278.030; and *Pub. Serv. Comm'n v. Com. ex rel. Conway,* 324 S.W.3d 373, 377 (Ky. 2010).

> to be billed to the customer in a billing period, the amount of the credit in excess of the customer's bill shall carry forward to the customer's next bill. Excess bill credits shall not be transferable between customers or premises. If an eligible customer-generator closes his or her account, no cash refund for accumulated credits shall be paid.

KRS 278.466(5) provides that net metering rates should be developed as follows:

> Using ratemaking process provided by this chapter, each retail electric supplier shall be entitled to implement rates to recover from its eligible customer-generators all costs necessary to serve its eligible customer-generators, including but not limited to fixed and demand-based costs, without regard for the rate structure for customers who are not eligible customer-generators.

According to KRS 278.466(2), the utility is financially responsible for providing net metering customers with a standard kWh meter capable of registering a bidirectional flow of electricity. Additional meters, distribution upgrades to monitor the bidirectional electricity flow, and any upgrade of the interconnection between the utility and net metering customer-generator are made at the expense of the customer-generator, pursuant to KRS 278.466(2) and (9).

KRS 278.466(6) provides that customers taking service under Rider NM-1 will continue to be compensated on a one-to-one kWh denominated energy credit for electricity fed into the grid for at least 25 years:

> For an eligible electric generating facility in service prior to the effective date of the initial net metering order by the commission in accordance with subsection (3) of this section, the net metering tariff provisions in place when the eligible customer-generator began taking net metering service, including the one-to-one (1:1) kilowatt-hour denominated energy credit provided for electricity fed into the grid, shall remain in effect at those premises for a twenty-five (25) year period, regardless of whether the premises are sold or conveyed during that twenty-five (25) year period. For any eligible customer-generator whom this subsection applies,

> each net metering contract or tariff under which the customer takes service shall be identical, with respect the energy rates, rate structure, and monthly charges, to the contract or tariff to which the same customer would be assigned if the customer were not an eligible customer-generator.

BACKGROUND

In Case No. 2019-00256,[12] the Commission opened a case to discuss the implementation of Net Metering with the electric utilities. The Order stated that the proceedings for the implementation of net metering rates should be thorough and transparent.[13] Additionally, in that Order, the Commission noted that the net metering ratemaking processes should consider utility-specific costs, and not a uniform rate for all electric utilities.[14]

Subsequently, the Commission has incorporated those principles in Louisville Gas and Electric Company's (LG&E) and Kentucky Utilities Company's (KU) (jointly, LG&E/KU) initial net metering cases[15] as well as Kentucky Power Company's (Kentucky Power) initial net metering case.[16] In the Kentucky Power final Order, the Commission

[12] Case No. 2019-00256, *Electronic Consideration of the Implementation of the Net Metering Act* (Ky PSC Dec. 18, 2019).

[13] Case No. 2019-00256, Dec. 18, 2019 Order at 31.

[14] Case No. 2019-00256, Dec. 18, 2019 Order at 32.

[15] Case No. 2020-00349, *Electronic Application of Kentucky Utilities Company for an Adjustment of its Electric and Gas Rates, A Certificate of Public Convenience and Necessity to Deploy Advances Metering Infrastructure, Approval of Certain Regulatory and Accounting Treatments, and Establishment of a One-Year Surcredit,* (Ky PSC Sept. 24, 2021); Case No. 2020-00350, *Electronic Application of Louisville Gas and Electric Company for an Adjustment of Its Electric and Gas Rates, a Certificate of Public Convenience and Necessity To Deploy Advances Metering Infrastructure, Approval of Certain Regulatory and Accounting Treatments, and Establishment of a One-Year Surcredit* (Ky PSC Sept. 24, 2021).

[16] Case No. 2020-00174, *Electronic Application of Kentucky Power Company for (1) A General Adjustment of its Rates for Electric Service; (2) Approval of Tariffs and Rates; (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* (Ky. PSC May 14, 2021).

outlined several principles that utilities should consider when determining their net metering rates and proposals.[17] Specifically, those principles were to: evaluate eligible generating facilities as a utility system or supply side resource; treat benefits and costs symmetrically; conduct forward-looking, long-term, and incremental analysis; avoid double counting; and ensure transparency.[18] The Commission also noted that, when considering rate designs for either export or consumption, "it is important to consider the above principles alongside the additional principles of stability and simplicity.[19] Therefore, while the principles above were offered in the context of compensating eligible customer-generators, similar principles also apply to rate design.

PROPOSED TARIFF

Rider NM-1. Duke Kentucky proposed to revise its Rider NM-1 to serve existing net metering customers in accordance with KRS 278.465 through KRS 278.468, renaming it "Net Metering I Rider", and removing the current interconnection guidelines and application and approval process from Rider NM-1 to be placed on newly created tariff sheets entitled "Interconnection."[20] Duke Kentucky also proposed non-substantive revisions to its Interconnection Approval Form and its Level 1 and Level 2 Applications for Interconnection and Net Metering.[21] Under the proposal, the revised Rider NM-1 will be closed to new participants and will terminate 25 years after Rider NM-2's effective date. Duke Kentucky also proposed a revision that clarifies that customers who elect to

[17] Case No. 2020-00174, May 14, 2021 Order at 21–24.

[18] Case No. 2020-00174, May 14, 2021 Order at 21–24.

[19] Case No. 2020-00174, May 14, 2021 Order at 24.

[20] Application at 1.

[21] Duke Kentucky's Response to Staff's Third Request, Item 5, Attachments.

terminate their participation in Rider NM-1 will not be able to obtain service under Rider NM-1.[22]

Duke Kentucky proposed that Rider NM-1 legacy customers altering their generating facility beyond replacement of like equipment resulting in a material increase in the generating capacity be removed from participation under Rider NM-1 and be required to reapply for interconnection under the applicable tariff options for customer-generators.[23]

Duke Kentucky has not proposed any change to the compensation received by Rider NM-1 customers.[24] Such customers will continue to be compensated on a one-to-one kWh denominated energy credit for electricity fed into the grid in accordance with KRS 278.466(6).

Finally, Duke Kentucky proposed adding the following language to Rider NM-1:

> [C]ustomer-generators are prohibited from simultaneous participation in both this Rider NM I and any Distributed Energy Resource Aggregation or with any Distributed Energy Resource Aggregator, as those terms are defined by PJM or subsequent Regional Transmission Organization, other than an aggregation formed by Duke Energy Kentucky acting as the aggregator. Customer-generators who desire to participate in PJM markets through a third party aggregator must contact the Company and terminate participation in this Rider NM I prior to such PJM market participation.[25]

[22] Application at 4.

[23] Application at 4.

[24] Duke Kentucky's Initial Brief (filed June 26, 2024) at 7–8.

[25] Application, Exhibit 2, pages 20–21 of 22.

Rider NM-2. Duke Kentucky proposed to create a new tariff, Rider NM-2, to serve prospective net metering customers not included in Rider NM-1, in accordance with KRS 278.465 through KRS 278.468.[26] Rider NM-2 will be available on a first come, first served basis up to a cumulative capacity, including capacity participating under Rider NM-1, of 1 percent of Duke Kentucky's single hour peak load in Kentucky during the previous year. Once the 1 percent threshold is met, Duke Kentucky's obligation to offer net metering to a new customer-generator may be limited.[27]

Duke Kentucky proposed that eligible customer-generators taking service under Rider NM-2 and a standard rate schedule, which includes a two-part rate structure, may continue to take service under that structure for at least 25 years after the start of service under Rider NM-2.[28] Rider NM-2 customers will not be eligible for the Advanced Meter Opt-Out Rider (Rider AMO) and customers receiving service under the Temporary Service Tariff (Rider TS) will not be eligible for Rider NM-2.[29] Duke Kentucky is also proposing to include in Rider NM-2 the same language it proposed to include in Rider NM-1 regarding Distributed Energy Resource (DER) Aggregation.[30]

Duke Kentucky will provide services under Rider NM-2, without any cost to the customer for metering equipment, through a standard kWh metering system capable of measuring the flow of electricity in two directions.[31] Any additional meter or distribution

[26] Application at 1.

[27] Application, Exhibit 3, page 1 of 6.

[28] Application, Exhibit 3, page 1 of 6.

[29] Application, Exhibit 3, page 1 of 6.

[30] Application, Exhibit 3, page 2 of 6.

[31] Application, Exhibit 3, page 2 of 6.

upgrades needed to monitor the flow in each direction will be installed at the customer's expense.[32]

Duke Kentucky proposed to measure the amount of electricity it delivers to the customer during the billing period and to calculate the customer's bill in accordance with the customer's standard rate schedule.[33] Duke Kentucky also proposed to measure the amount of electricity delivered by the customer to the utility during the billing period and provide a bill credit for each kWh the customer delivered to the utility's grid.[34] According to the testimony, the two amounts will be netted subject to the minimum bill provisions of the customer's rate schedule, with any unused credits carried forward on the customer's account.[35] Duke Kentucky proposed that any unused excess billing credits existing at the time the customer's service is terminated at a service location are not transferrable between customers or locations.[36] In the case of joint accounts, unused excess billing credits will be carried forward as long as at least one joint account holder remains in the same location.[37]

Duke Kentucky originally proposed the following excess generation avoided cost credit rate (credit rate): (1) Residential - $0.057132 per kWh; and (2) Non-Residential - $0.057463 per kWh. To arrive at the credit rate, Duke Kentucky took into account avoided

[32] Application, Exhibit 3, page 2 of 6.

[33] Application, Exhibit 3, page 2 of 6.

[34] Application, Exhibit 3, page 2 of 6.

[35] Application at 6.

[36] Application, Exhibit 3, page 2 of 6.

[37] Application, Exhibit 3, page 2 of 6.

energy costs and avoided generation capacity costs.[38] Duke Kentucky did not take into account avoided distribution and avoided transmission capacity costs, stating that there was a lack of evidence to support adding those components.[39] However, Duke Kentucky did provide values for the avoided distribution and avoided transmission capacity costs that would allow them to be included in the credit rate if the Commission determined they should be included.[40] Based on that information, the amounts would be the following if the avoided transmission and distribution capacity costs were included: (1) Residential - $0.080187 per kWh; and (2) Non-Residential - $0.080518 per kWh.[41]

Finally, Duke Kentucky proposed to recover the avoided cost excess generation credits applied to Rider NM-2 customer bills through its Fuel Adjustment Clause (FAC).[42]

ARGUMENTS

Duke Kentucky:

Duke Kentucky argued that its proposed credit rate fairly and reasonably represents all costs necessary to serve its eligible customer-generators.[43] Duke Kentucky indicated that, during the pendency of this case, it updated its avoided capacity costs for qualifying facilities and PJM released revised effective load carrying capability (ELCC) values for Fixed Solar for use in the 2025/2026 Base Residual Auction.[44] Based on these

[38] Application at 6.

[39] Application at 6–7.

[40] Sailers Direct Testimony at 24.

[41] Sailers Direct Testimony at 24.

[42] Application, Exhibit 3, at 2.

[43] Duke Kentucky's Initial Brief at 12.

[44] Sailers Rebuttal Testimony at 11–12.

updates, Duke Kentucky indicated that the credit rate could be revised to the following: (1) Residential without Transmission and Distribution Capacity Costs - $0.051067 per kWh and Non-Residential without Transmission and Distribution Capacity Costs - $0.051398 per kWh; or (2) Residential with Transmission and Distribution Capacity Costs - $0.074122 per kWh and Non-Residential with Transmission and Distribution Capacity Costs - $0.074453 per kWh.[45]

For the avoided energy cost, avoided environmental compliance cost and avoided carbon cost, Duke Kentucky stated that those costs reflect the most accurate and up-to-date information available and mirror its integrated resource plan (IRP) methodology.[46] Duke Kentucky used forecasted locational marginal prices (LMP) to develop average annual prices for the next 25 years and discounted those prices through a net present value calculation to arrive at the avoided energy cost.[47] For the residential value, Duke Kentucky calculated the average annual price based on the actual residential excess generation profile from 2022.[48] For the non-residential value, Duke Kentucky stated that it was not appropriate to use the actual excess generation profile from non-residential customers due to the small population of non-residential customer-generators.[49] Instead, Duke Kentucky used a PVWatts solar output profile to weight the LMP forecasted prices for the non-residential value.[50] While Duke Kentucky acknowledged that more

[45] Duke Kentucky's Initial Brief at 14.

[46] Duke Kentucky's Initial Brief at 14.

[47] Sailers Direct Testimony at 16.

[48] Sailers Direct Testimony at 17.

[49] Sailers Direct Testimony at 17.

[50] Sailers Direct Testimony at 17.

transparent methods could have been used to determine these costs, it stated that the methods would not have been as accurate or current a reflection of Duke Kentucky's actual avoided costs.[51]

To arrive at the avoided generation capacity cost, Duke Kentucky indicated that it calculated the fixed cost of constructing, financing, and staffing a Combustion Turbine (CT)to meet customer demand.[52] Duke Kentucky argued that while PJM Net Cost of New Entry (CONE) values would offer more transparency, these values would not accurately reflect the avoided generation capacity costs of Duke Kentucky.[53] While the Joint Intervenors argued that Commission precedent would call for the use of PJM Net CONE to determine the avoided generation capacity cost, Duke Kentucky stated that the Commission did not deem PJM Net CONE as the best approach and that its method is more tailored to its service territory.[54]

To determine avoided ancillary services cost, Duke Kentucky stated that it obtained price forecasts for ancillary services and then used a net present value calculation to arrive at the appropriate avoided ancillary services cost.[55]

Duke Kentucky stated that it did not include components for avoided transmission and distribution capacity costs in the proposed credit rate due to the random, intermittent, and non-dispatchable nature of exports from a net metering customer.[56] As such, Duke

[51] Duke Kentucky's Initial Brief at 14.

[52] Duke Kentucky's Initial Brief at 16.

[53] Duke Kentucky's Initial Brief at 17.

[54] Duke Kentucky's Initial Brief at 17.

[55] Duke Kentucky's Initial Brief at 17–18.

[56] Duke Kentucky's Initial Brief at 18

Kentucky argued that it is precluded from relying on such exports to reduce its planned transmission and distribution investments.[57]

Regarding job benefits, Duke Kentucky stated that it did not see grounds to support the inclusion of a jobs benefit in the credit rate as there is only a small amount of net metering capacity remaining under the net metering cap for which to evaluate incremental job benefits.[58]

Regarding the circumstances under which Rider NM-1 customers would lose their Rider NM-1 legacy rights, Duke Kentucky stated that the material increase language will only be triggered if the customer increases the capacity of the generating facility's inverter from the inverter capacity that was approved in the facility's initial interconnection study.[59] Duke Kentucky stated that replacing like-for-like equipment will not be considered a material modification.[60] Additionally, Duke Kentucky specified that increases in solar panel capacity will not be considered material as long as the panels are consistent with the capability of the generating facility's pre-existing inverter, i.e., the inverter that was approved in the generating facility's initial interconnection study.[61] Duke Kentucky stated that if a customer increases the inverter capacity from the previously approved inverter capacity, Duke Kentucky will require a new interconnection application and study and the customer will no longer be eligible for Rider NM-1.[62]

[57] Duke Kentucky's Initial Brief at 18.

[58] Duke Kentucky's Initial Brief at 20.

[59] Duke Kentucky's Initial Brief at 8.

[60] Duke Kentucky's Initial Brief at 8.

[61] Duke Kentucky's Initial Brief at 8.

[62] Duke Kentucky's Initial Brief at 8–9.

When a premises containing an eligible generating facility served under Rider NM-1 is sold or conveyed, Duke Kentucky stated that the premises would remain on Rider NM-1 during the 25-year legacy period assuming there is no other reason for removal or transition.[63] However, the new owner of the premises would be required to complete an interconnection agreement.[64] Duke Kentucky argued that requiring a new interconnection agreement when a premises is sold or conveyed is necessary as, by signing the agreement, the new customer is agreeing to commitments that are important to the safety and reliability of Duke Kentucky's system.[65]

Duke Kentucky proposed the language regarding DER Aggregation to address future scenarios where a customer-generator would have the opportunity to participate in a DER Aggregation or with any DER Aggregator, as those terms are defined by PJM Interconnection, LLC (PJM).[66] Duke Kentucky argued that allowing a customer-generator to participate in Rider NM-1 or Rider NM-2 and a DER Aggregation would essentially result in the customer-generator being double compensated for the same service.[67] Duke Kentucky stated that it based the proposed language on the policy against double counting set forth in recent Federal Energy Regulatory Commission (FERC) orders and the most recent compliance filing made by PJM.[68]

[63] Duke Kentucky's Response to KYSEIA's First Request, Item 1(b).

[64] Duke Kentucky's Response to KYSEIA's First Request, Item 1(b).

[65] Duke Kentucky's Reply Brief (filed July 18, 2024) at 15.

[66] Duke Kentucky's Initial Brief at 9.

[67] Duke Kentucky's Initial Brief at 9.

[68] Duke Kentucky's Initial Brief at 9.

Duke Kentucky argued that it is uncertain whether an aggregation could be created and accepted by PJM that includes Rider NM-1 resources, which are compensated through Rider NM-1, while somehow determining that the program is providing additional net system benefit.[69] Duke Kentucky stated that, even if such an aggregation could be created, Duke Kentucky would be the only aggregator eligible to do so, given the Rider NM-1 credit provided to the customer-generator.

Regarding the prohibition of customers participating in Rider NM-2 and the Advanced Meter Opt-Out (Rider AMO) or the Temporary Service tariff, Duke Kentucky stated that temporary service accounts are typically for builders during site construction[70] and that billing and field collection system modifications would be needed to accommodate Rider AMO customers.[71] Duke Kentucky estimated that such changes would take approximately 12 months to implement at a cost of approximately $1.6 million.[72]

Duke Kentucky argued that its netting methodology complies with the Net Metering statutes and recent Commission precedent.[73] Duke Kentucky cited to LG&E/KU's Commission approved net metering tariffs, which set forth the same netting methodology proposed by Duke Kentucky in this proceeding.[74] Duke Kentucky also cited the definition of "net metering" in KRS 278.465(4), which states:

[69] Duke Kentucky's Response to Staff's First Post-Hearing Request, Item 5.

[70] Duke Kentucky's Response to Staff's First Request, Item 3.

[71] Duke Kentucky's Response to Staff's First Post-Hearing Request, Item 8.

[72] Duke Kentucky's Response to Staff's Second Post-Hearing Request, Item 2.

[73] Duke Kentucky's Initial Brief at 10–12.

[74] Duke Kentucky's Reply Brief at 3–4.

> "Net metering" means the difference between the:
> (a) Dollar value of all electricity generated by an eligible customer-generator that is fed back to the electric grid over a billing period and priced as prescribed in KRS 278.466; and
> (b) Dollar value of all electricity consumed by the eligible customer-generator over the same billing period and priced using the applicable tariff of the retail electric supplier.[75]

Attorney General:

First, the Attorney General argued that Duke Kentucky's proposal appropriately considered the impacts of net-metering on all of its customers, including non-participants.[76] The Attorney General argued that the Commission should take a holistic perspective since the compensation afforded to net metering customers for excess energy impact every other Duke Kentucky retail customer.[77] The Attorney General stated that, as the solar industry has grown, the question of whether rooftop solar customers are receiving excessive benefits for the power they generate at the expense of other customers is becoming increasingly important and pointed out other states that are overhauling and decreasing net-metering rates.[78]

Next, the Attorney General argued that renewable generation, including small-scale solar arrays, such as those at issue in this case, do not provide substantial amounts of reliable energy that customers need and demand.[79] The Attorney General stated that intermittent resources, such as rooftop solar, are physically incapable of generating

[75] Duke Kentucky's Reply Brief at 2.

[76] Attorney General's Memorandum Brief (filed June 26, 2024) at 1.

[77] Attorney General's Memorandum Brief at 1.

[78] Attorney General's Memorandum Brief at 4.

[79] Attorney General's Memorandum Brief at 5.

during critical times and that these resources produce a relatively small amount of energy during only a portion of the day.[80] The Attorney General argued that attempts to inaccurately portray intermittent resources and traditional resources as functionally equivalent invite the types of energy supply shortages and associated reliability impacts being seen locally and nationally.[81]

Finally, the Attorney General argued that Duke Kentucky's Rider NM-2 proposal represents fair, just and reasonable rates.[82] The Attorney General argued that, in order to achieve fair, just and reasonable rates for all customers, it stands to reason that excess rooftop solar generation should only be purchased at the lowest reasonable price and that in all other instances, utilities in the Commonwealth are required to pursue least cost resources.[83] The Attorney General cited previous precedent where the Commission has defined "[a]voided costs" as "the incremental costs that a utility would have incurred but for services purchased from net metered customers instead of purchasing or generating the same amount of services from another source."[84] The Attorney General stated that the Commission articulated eight factors to consider when determining avoided costs associated with net metering: (1) energy cost; (2) ancillary services; (3) generation capacity; (4) transmission capacity; (5) distribution capacity; (6) carbon cost; (7) environmental compliance cost; and (8) job benefits.[85] The Attorney General argued that

[80] Attorney General's Memorandum Brief at 5.

[81] Attorney General's Memorandum Brief at 6.

[82] Attorney General's Memorandum Brief at 6.

[83] Attorney General's Memorandum Brief at 6.

[84] Attorney General's Memorandum Brief citing Case No. 2020-00174, May 14, 2021 Order at 6-7.

[85] Attorney General's Memorandum Brief citing Case No. 2020-00174, May 14, 2021 Order at 6-7.

Duke Kentucky's calculation of Rider NM-2 bill credits of $0.057132 $/kWh (residential customers) and $0.057463 kWh (non-residential customers) based on those same factors appears justified and well-supported by the evidence in the record, and the Attorney General recommended approval of the proposal as filed.[86]

KYSEIA:

First, KYSEIA argued that Duke Kentucky's proposed tariff change to Rider NM-1 is unlawful because it negates the statutorily created legacy rights granted for existing electric generating facilities.[87] Specifically, KYSEIA pointed to the language of KRS 278.466(6) that regards legacy rights whether the premises are sold or conveyed for 25 years.[88] KYSEIA stated that, while it is reasonable for Duke Kentucky to have a process in place for the orderly transition of a Rider NM-1 customer-generator at a premises from one customer to a successor at the same premises, it is unlawful to suspend or inactivate legacy rights through that process.[89] KYSEIA argued that, Duke Kentucky's approach of denying legacy rights unless, and until, the successor net metering customer can demonstrate entitlement to such rights to Duke Kentucky's satisfaction equates to an attempt to exercise a power plainly denied by statute.[90]

Next, KYSEIA argued that Duke Kentucky's proposal concerning increases in generating capacity for Rider NM-1 and Rider NM-2 customers was unreasonable

[86] Attorney General's Memorandum Brief at 7.

[87] KYSEA's Memorandum Brief (filed June 28, 2024) at 4.

[88] KYSEA's Memorandum Brief at 4.

[89] KYSEIA's Memorandum Brief at 5.

[90] KYSEIA's Memorandum Brief at 5.

because it was contrary to legislative intent.[91] KYSEIA stated that Duke Kentucky's proposal to terminate legacy benefits under Rider NM-1 for an increase in generating capacity does not have a textual basis in KRS 278.466 or Senate Bill 100, and that a construction of KRS 278.466 suggesting that the legislature intends such a result cuts against an express legislative intent to preserve rights for Rider NM-1 customer-generators.[92] KYSEIA stated that the proposed language is unreasonable because it is misleading, and if Duke Kentucky wanted to propose a *per se* policy or bright line test for any increase in inverter rating resulting in a net metering tariff change, then it should unmistakably identify the policy through its application.[93] KYSEIA argued that Duke Kentucky's proposed language does not give fair and reasonable notice to its customers, and the language does not reasonably identify and explain its actual policy.[94] Therefore, KYSEIA argued that it should be denied as unreasonable.[95]

KYSEIA's third argument was that the analysis offered by Duke Kentucky in support of its proposal for successor net metering rates under Rider NM-2 is unreasonable because it does not provide a matching of actual weather conditions to customer usage history and fails to demonstrate the reliability of applying modeled weather conditions to its customer usage history.[96] KYSEIA argued that the rationale of simplification of Duke Kentucky's cost-of-service study (COSS) cannot justify an

[91] KYSEIA's Memorandum Brief at 6.

[92] KYSEIA's Memorandum Brief at 6.

[93] KYSEIA's Memorandum Brief at 6.

[94] KYSEIA's Memorandum Brief at 6.

[95] KYSEIA's Memorandum Brief at 6.

[96] KYSEIA's Memorandum Brief at 7.

inherently unreliable analysis of the impact of solar generation.[97] KYSEIA pointed out that Duke Kentucky's projections of solar generation are not based upon the actual generation of its net metering customers, and that Duke Kentucky's customers actual usage and generation results for the study period are not weather normalized results.[98]

KYSEIA then argued that the analysis offered by Duke Kentucky in support of its proposal for successor net metering rates under Rider NM-2 is unreasonable because it does not demonstrate that the 12 coincident peak (12 CP) hours identified in the study period and used for the analysis reliably demonstrate the likely impact of solar generation on Duke Kentucky's cost of service for its residential customers who have net metering service.[99] KYSEIA pointed out that the evidence supplied by Duke Kentucky in support of its application did not contain a clear reconciliation of the hours and days for the COSS and the hours and days for the modeled solar generation, which Duke Kentucky conceded in a post hearing request for information.[100] KYSEIA stated that it is a critical error because only 12 of the 8,760 hours establish the 12 CP used in the analysis and relied upon by Duke Kentucky.[101] KYSEIA stated that the evidence presented struggled to demonstrate in a cogent manner that the 12 CP from the COSS in its most recent rate case properly matches (and reconciles by reference to Eastern Standard Time) the actual customer usage results to the typical weather year modeled solar generation.[102] KYSEIA

[97] KYSEIA's Memorandum Brief at 7.

[98] KYSEIA's Memorandum Brief at 8–9.

[99] KYSEIA's Memorandum Brief at 9.

[100] KYSEIA's Memorandum Brief at 9.

[101] KYSEIA's Memorandum Brief at 9.

[102] KYSEIA's Memorandum Brief at 9.

also noted that Duke Kentucky is the party with the burden of proof.[103] KYSEIA argued that the lack of a clear reconciliation of schedules, identification, and quantification for the 12 CP aggravates or worsens the problem of mixing and matching actual usage results from the COSS period with modeled typical year weather results that are separate from the same study period.[104]

KYSEIA argued that Duke Kentucky has yet to present an analysis that, aside from its other problems, is clear and understandable.[105] KYSEIA argued that all other things equal, higher solar generation corresponds to lower demand values during the 12 CP hours and that there is a significant risk that Duke Kentucky's analysis severely understates the reductions it would experience by reference to its COSS analysis.[106] KYSEIA argued that Duke Kentucky's analysis, which also suppresses the value of solar generation through preventing a negative net load hour in the 12 CP values, fails to reliably explain or predict customer usage and behavior, and it fails to demonstrate the value of solar exports upon its system from its net metering customers and is therefore unsound for proper ratemaking.[107]

Lastly, KYSEIA argued that Duke Kentucky's approach to serving its net metering customers lacks sufficient accountability.[108] KYSEIA argued that a common thread throughout Duke Kentucky's application and evidence is that Duke Kentucky does not

[103] KYSEIA's Memorandum Brief at 10.

[104] KYSEIA's Memorandum Brief at 10.

[105] KYSEIA's Memorandum Brief at 10.

[106] KYSEIA's Memorandum Brief at 10–11.

[107] KYSEIA's Memorandum Brief at 11.

[108] KYSEIA's Memorandum Brief at 11.

offer much coordination of service to its net metering customers.[109] KYSEIA pointed out that Duke Kentucky cannot identify who is ultimately responsible or otherwise accountable for decisions concerning net metering switch determinations.[110] Therefore, KYSEIA argued that Duke Kentucky needs to change its approach to comply with statute and to provide reasonable service and processing of matters concerning net metering service.[111]

Joint Intervenors:

Joint Intervenors argued that Duke Kentucky was not required to file this rate application but was entitled to seek to implement updated rates pursuant to the Commonwealth's Net Metering Statutes and prior Commission precedent.[112] Joint Intervenors stated that Duke Kentucky was not required to apply to discontinue net metering, and Duke Kentucky should ensure transparent and reciprocal stakeholder outreach prior to applying to make any further changes.[113]

Additionally, Joint Intervenors argued that Duke Kentucky did not comply with the principles of setting net metering compensation rates.[114] First, Joint Intervenors argued that Duke Kentucky did not consider eligible customer-generators as supply-side resources using consistent methods, processes, and assumptions.[115] Next, Joint

[109] KYSEIA's Memorandum Brief at 11.

[110] KYSEIA's Memorandum Brief at 11.

[111] KYSEIA's Memorandum Brief at 11–12.

[112] Joint Intervenors' Memorandum Brief (filed June 28, 2024) at 11.

[113] Joint Intervenors' Memorandum Brief at 12.

[114] Joint Intervenors' Memorandum Brief at 12.

[115] Joint Intervenors' Memorandum Brief at 13.

Intervenors argued that Duke Kentucky did not treat benefits and costs symmetrically.[116] Joint Intervenors also argued that Duke Kentucky did not conduct a forward-looking, long-term, and incremental analysis.[117] Joint Intervenors stated that, while ratepayers make a long-term investment, and rates are set based on long-term modeling from Duke Kentucky; those rates are subject to periodic change at the initiation of Duke Kentucky.[118] Joint Intervenors stated that Dr. McCann, their witness, demonstrated that the immediate change in compensation of customer-generators applied for by Duke Kentucky would contravene the forward-looking, incremental principle of gradualism.[119] Joint Intervenors also took issue with Duke Kentucky using proprietary data, calculations, and modeling, arguing that Duke Kentucky did not comply with the requirement to ensure transparency.[120] Joint Intervenors also stated that Duke Kentucky failed to give serious consideration to input from stakeholders which questioned the very need for filing the Rider NM-2 tariff change.[121]

Joint Intervenors also argued that the avoided costs proposed by Duke Kentucky do not comply with the standards or policy for setting compensation for customer-generators, and are not fair, just and reasonable.[122] Joint Intervenors argued that Duke Kentucky improperly excluded avoided distribution and transmission costs, and

[116] Joint Intervenors' Memorandum Brief at 14.

[117] Joint Intervenors' Memorandum Brief at 14.

[118] Joint Intervenors' Memorandum Brief at 15

[119] Joint Intervenors' Memorandum Brief at 15 citing to McCann Direct Testimony at 3, 37.

[120] Joint Intervenors' Memorandum Brief at 16.

[121] Joint Intervenors' Memorandum Brief at 18.

[122] Joint Intervenors' Memorandum Brief at 18–19.

disregarded the Commission's prior precedent.[123] Joint Intervenors argued that customer-generators are not a random and intermittent resource, and are more constant and predictable than Demand-Side Management (DSM) measures, if less closely matched to customer demand.[124] Joint Intervenors recommended that the Commission include avoided distribution costs in setting any eventual compensation rate.[125] Joint Intervenors claimed that utilities often over-build distribution infrastructure, even despite no projections of large load growth, as with Duke Kentucky, and therefore, undervalue the potential benefits of DERs.[126] Joint Intervenors requested that the Commission order a full COSS to determine the portion of the incremental cost of transmission displaced by customer-generators, and that, if the Commission does not reject the application, that it order a study within a reasonable amount of time, and that the full value calculated by witness Dr. McCann be used in the meantime.[127]

Joint Intervenors argued that Duke Kentucky disregarded the Commission's precedent to use publicly available information, such as PJM's Net CONE values, with respect to setting avoided capacity costs.[128] Joint Intervenors also argued that Duke Kentucky also ignored the added avoided carbon costs created by customer generators.[129] Joint Intervenors argued that Duke Kentucky's suggestion that the

[123] Joint Intervenors' Memorandum Brief at 19.

[124] Joint Intervenors' Memorandum Brief at 20–21.

[125] Joint Intervenors' Memorandum Brief at 21.

[126] Joint Intervenors' Memorandum Brief at 21–22.

[127] Joint Intervenors' Memorandum Brief at 22–23.

[128] Joint Intervenors' Memorandum Brief at 24.

[129] Joint Intervenors' Memorandum Brief at 24.

inclusion of the benefits of the Inflation Reduction Act fully encompassed the avoided costs of carbon was incorrect, in addition to being in contradiction of the Commission's prior orders.[130] Joint Intervenors stated that they continue to advocate for a somewhat more moderate avoided carbon price between $58 and $188 per ton, or $0.0466 per kWh.[131]

Joint Intervenors argued that Duke Kentucky ignored a variety of known or anticipated costs of compliance with environmental regulations.[132] Joint Intervenors cited to the fact that the Commission has previously considered and rejected the position that environmental costs were included in the avoided energy costs, and explicitly required consideration of at least two additional environmental rules.[133] Joint Intervenors argued that because Duke Kentucky has capital environmental costs that can be avoided by generation from customer-generators, and new and updated environmental rules will absolutely have an effect on the value of energy produced by customer-generations, they deserve credit for them, and Duke Kentucky's application that fails to include them should be rejected for failing to comply with prior Commission orders.[134]

Additionally, Joint Intervenors argued that Duke Kentucky failed to account for the inherent variability and risk in fuel prices in calculating its avoided energy costs.[135] Joint

[130] Joint Intervenors' Memorandum Brief at 25.

[131] Joint Intervenors' Memorandum Brief at 26.

[132] Joint Intervenors' Memorandum Brief at 26.

[133] Joint Intervenors' Memorandum Brief at 26 citing Case Nos. 2020-00349 and 2020-00350, Sept. 24, 2021 Order at 56-57.

[134] Joint Intervenors' Memorandum Brief at 28.

[135] Joint Intervenors' Memorandum Brief at 28.

Intervenors stated that market forecast prices alone fail to account for the benefit of energy produced by customer-generators, because customer-generators have consistent production and cost, and utilities can know, and to a great deal control, the price paid to customer-generators and when it will change.[136] Joint Intervenors averred that Duke Kentucky disregarded the Commission's previous orders with regard to job benefits of distributed generation.[137]

Joint Intervenors stated that Duke Kentucky proposes approach to implement Rider NM-2 is inconsistent both with the plain language of the governing statute and with the methodology adopted.[138] Joint Intervenors argued that the 2019 statutory revisions did not alter the manner in which the generation and consumption (however denominated) is to be netted- which is over the billing period.[139] Joint Intervenors argued that Duke Kentucky's proposed Rider NM-2 is contrary to KRS 278.466 and to the Commission's Order in Case No. 2020-00174, which required that the generation and consumption over the billing period be netted, with the retail rate applied to any excess consumption over generation over that period, or the new compensatory rate applied to determine the value of the excess generation over consumption over that period.[140] The Joint Intervenors requested that the Commission clarify how net metering under Rider NM-2 should be

[136] Joint Intervenors' Memorandum Brief at 28.

[137] Joint Intervenors' Memorandum Brief at 29.

[138] Joint Intervenors' Memorandum Brief at 31.

[139] Joint Intervenors' Memorandum Brief at 33.

[140] Joint Intervenors' Memorandum Brief at 32–33.

calculated and specifically to reconcile and clarify the language and methodology at issue in the previous LG&E/KU cases.[141]

Response Briefs

In their reply brief, Joint Intervenors fully adopted the arguments and position of KYSEIA and reiterated its arguments and requested that the Commission reject Duke Kentucky's filing without prejudice, with an order to follow prior Commission precedent before reapplying.[142] Similarly, KYSEIA agreed with Joint Intervenors' arguments that Duke Kentucky was not required to make this filing on the deadline that Duke Kentucky self-imposed, that Joint Intervenors' approach to calculating net metering over the billing period is consistent with legislative intent, and Joint Intervenors' discussion of changes in the net metering law and the Commission's implementation of Senate Bill 100.[143] KYSEIA reiterated its disagreement with Duke Kentucky's arguments and methods.[144] KYSEIA also disagreed with the Attorney General's discussion of net metering in Kentucky, stating the Attorney General offers little for the findings of fact and conclusions of law the Commission must make in the instant proceeding.[145]

On July 18, 2024, Duke Kentucky filed a reply brief that reiterated its position that the tariffs as filed comply with the net metering statute, the methodologies are reasonable, and the application, as filed, should be approved.

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[141] Joint Intervenors' Memorandum Brief at 45-46.

[142] Joint Intervenor's Response Brief (filed July 18, 2024).

[143] Joint Intervenors' Response Brief at 8-16; KYSEIA's Response Brief (filed July 18, 2024) at 2-4.

[144] KYSEIA's Response Brief 4-11.

[145] KYSEIA's Response Brief 12-14.

DISCUSSION AND FINDINGS

Having considered the application and reviewed the record, the Commission makes several findings as discussed more fully below.

Rider NM-1

The Commission finds that Rider NM-1 is approved with the modifications discussed further below.

The Commission notes that Duke Kentucky's Rider NM-1 fails to clearly designate legacy rights as attached to the property in a clear and concise manner. The Commission finds that Duke Kentucky should include explicit language setting out the legacy rights for Rider NM-1 customers regardless of whether the premises are sold or conveyed during the 25-year period pursuant to KRS 278.766.

Additionally, the Commission finds that the removal of a customer from Rider NM-1 following a replacement of equipment resulting in a material increase in the generating capacity as proposed in the tariff is both vague and overbroad.[146] The proposed language does not properly put customers on notice in regard to when they would be removed from Rider NM-1. The tariff only states that the customers will be removed from Rider NM-1 and would, therefore, be required to reapply for interconnection. The Commission notes that Duke Kentucky should clearly and concisely communicate to customers the process and consequences of upgrading their generating capacity, including a specific given time that the customers would be removed from Rider NM-1. Duke Kentucky should add additional language into its tariff that clarifies the process with customers, including the responsibilities of each party at each step. The Commission finds that Duke Kentucky

[146] Application, Exhibit 1, KY.P.S.C. Electric No. 2 Seventh Revised Sheet No. 89.

should define both material change and equipment in its tariff to provide better transparency to its customers.[147] In addition, the Commission finds that replacement of eligible generating facilities in the ordinary course of business that result in only an incidental increase in capacity should not trigger a change in Rider NM-1 legacy status. Similarly, with the additional language related to a material increase, Duke Kentucky should also include language explicitly noting this finding in its tariff as well as when drafting the now required definition of material increase.

Rider NM-2

The Commission finds that Rider NM-2 is approved with the modifications discussed further below.

Avoided Cost Excess Generation Credits

Avoided Capacity Costs

Having reviewed the record, the Commission finds that Duke Kentucky's methodology and calculation of its avoided capacity costs is reasonable as modified below. However, the Commission notes that neither Duke Kentucky nor any intervenor presented sufficient evidence to support different cost calculations in a manner contemplated by the Commission's precedent.

The Commission accepts Duke Kentucky using the cost of a combustion turbine (CT) as a starting point for its avoided generation capacity costs calculation considering a CT is the best generic substitute as it is generally regarded as a least-cost capacity

[147] In its brief, Duke Kentucky explained that the material increase language will only be triggered if the customer increases the capacity of the generating facility's inverter from the inverter capacity that was approved in the facility's initial interconnection study but that replacing like-for-like equipment will not be considered a material modification.

resource and has variable sizing. However, the Commission takes issue with some of the inputs in Duke Kentucky's CT cost calculation.

First, the Commission is skeptical of the current cost that Duke Kentucky utilized in its original filing and in rebuttal testimony as it appears to be severely understated.[148] The Commission notes that the National Renewable Energy Laboratory's Annual Technology Baseline (NREL ATB) has a CAPEX cost of a natural gas CT (F-Frame) of $1,349 per kW, which is significantly higher than what Duke Kentucky had proposed in its avoided cost calculations for the cost of a CT.[149] Duke Kentucky explained that there appeared to be significant differences between the PJM Net CONE values, and its own position regarding marginal capacity resources and therefore it utilized its own third-party confidential estimates. The Commission notes that Duke Kentucky did not provide sufficient evidence nor justification in support of its CT cost estimates. Moreover, it did not refute the cost estimates that were publicly available from PJM or from NREL and simply asserted that there were significant differences.[150] The Commission finds that considering the costs of the CT between NREL's ATB and Duke Kentucky's confidential information is slightly different, the Commission will accept Duke Kentucky's cost estimates of a CT. However, the Commission notes that the burden is on the utility to submit the necessary information into the record so that the Commission can make a

[148] Duke Kentucky filed for and was granted confidential protection for the CT cost calculation by Order issued May 17, 2024.

[149] https://data.openei.org/files/6006/2024%20v2%20Annual%20Technology%20Baseline%20Workbook%20Errata%207-19-2024.xlsx

[150] Sailers Direct Testimony at 19.

reasonable determination of costs and therefore expects Duke Kentucky to file this information in its next net metering case.

Additionally, the Commission is skeptical of the 2023 fixed Operating and Maintenance (O&M) cost that Duke Kentucky utilized as it appeared to be significantly understated as well. The Commission acknowledges that a CT has relatively low capital costs as compared to other capacity generating resources, but not significantly lower than that of a proxy CT from PJM Net CONE or NREL ATB. The Commission notes that Duke Kentucky appeared to model the 2023 fixed O&M costs based upon a specific type of CT with environmental compliance[151] rather than a general proxy CT[152], which is contradictory to the modeling of generalized costs. By consistently understating costs in its modeling, Duke Kentucky is offering a lesser credit to its NM customers which could, in turn, result in negative financial incentives to those customers. Therefore, the Commission accepts the 2023 fixed O&M costs from Duke Kentucky's response to Staff's Post-Hearing Request, Item 1(a) based on the premise that Duke Kentucky provided multiple scenarios with low and high fixed costs for multiple different types of CTs. The Commission agrees with the higher values for fixed O&M costs for the specific CTs that were provided and based on other publicly available data.[153]

Next, Duke Kentucky did not propose to include its distribution capacity or transmission capacity avoided costs in its credit rate. Duke Kentucky proposed that, if

[151] Duke Kentucky's Response to Staff's First Post-Hearing Request, Item 1(a), CONF Attachment 2.

[152] https://data.openei.org/files/6006/2024%20v2%20Annual%20Technology%20Baseline%20Workbook%20Errata%207-19-2024.xlsx.

[153] Duke Kentucky's Response to Staff's First Post-Hearing Request, Item 1(a), CONF Attachment 2, Scenario 1.

the Commission found that these avoided costs should be included in the credit rate, then its DSM avoided cost value should be the basis for its calculation. The DSM avoided cost value is derived from information provided by Duke Kentucky's Analytics department for the cost of transmission and distribution upgrades related to load growth in 2020 dollars and escalated based on Moody's Analytics Electric Power Distribution – East South-Central Forecast. However, the Commission finds that the calculation proposed by Duke Kentucky is outdated and unreliable, considering the costs are approximately four years old. Therefore, the Commission will utilize the T&D values listed in Duke Kentucky's rebuttal testimony[154] until its next filing in which the Commission expects Duke Kentucky to file updated and additional evidence in regard to avoided transmission and distribution values.

Lastly, the Commission notes that Duke Kentucky did provide updated ELCC values in rebuttal testimony.[155] However, while the ELCC value for fixed-tilt solar decreased from 31 percent to 9 percent for the 2025/2026 BRA, and Duke Kentucky did provide those updated values in its rebuttal testimony Exhibit BLS-1, the Commission notes that Duke Kentucky did not utilize those updated transmission and distribution values in calculating the updated avoided cost rates and instead utilized the cost rates from its original filing. Duke Kentucky stated that the avoided transmission rate was $0.007662 per kWh and the avoided distribution rate was $0.015393 per kWh[156], but with updated ELCC values, the new avoided transmission rate is $0.003330 per kWh and the

[154] Sailers Rebuttal Testimony, Exhibit BLS-1.

[155] Sailers Rebuttal Testimony, Exhibit BLS-1.

[156] Sailers Rebuttal Testimony at 13-14.

new avoided distribution rate is $0.006719 per kWh.[157] Therefore, the Commission finds that the proposed net metering rates in rebuttal testimony are overstated and should be adjusted based on the updated avoided transmission and distribution values as noted above. Therefore, the Commission finds that the Excess Generation Avoided Cost Credit for residential should be $0.062924 per kWh, including avoided transmission and distribution and the Excess Generation Avoided Cost Credit for non-residential should be $0.063255 per kWh, including avoided transmission and distribution.

The Commission accepts Duke Kentucky's avoided capacity costs as modified in this Order; however, the Commission will require Duke Kentucky file another Net Metering application after the conclusion of its 2024 IRP filing with updated rates that utilize public and transparent available data considering the Commission has utilized this for all other vertically integrated utilities in Kentucky.[158] The Commission also finds that Duke Kentucky should utilize updated avoided transmission capacity and distribution capacity cost information from its 2024 IRP filing to reflect more accurate avoided costs in its next filing.

Avoided Cost Calculations

In Case No. 2020-00174, the Commission established principles for utilities to follow in creating their net metering tariffs: evaluate eligible generating facilities as a utility system or supply side resource; treat benefits and costs symmetrically; conduct forward-looking, long-term, and incremental analysis; avoid double counting; and ensure

[157] Sailers Rebuttal Testimony, Exhibit BLS-1.

[158] Case No. 2020-00174, May 14, 2021 Order, Case No. 2020-00349, Sept. 24, 2021 Order, Case No. 2020-00350, Sept. 24, 2021 Order, Case No. 2023-00153, *Electronic Tariff Filing of East Kentucky Power Cooperative, Inc. and Its Member Distribution Cooperatives for Approval of Proposed Changes to Their Qualified Cogeneration and Small Power Production Facilities Tariffs* (Ky. PSC Oct. 31, 2023).

transparency.[159] The Commission also noted that, when considering rate designs for either export or consumption, "it is important to consider the above principles alongside the additional principles of stability and simplicity.[160]

While the Commission finds the use of the CT appropriate, the Commission agrees with the arguments made by Joint Intervenors and KYSEIA about Duke Kentucky's use of confidential third-party information to determine the avoided cost capacity value. The Commission has repeatedly stressed the importance of relying upon open, transparent, and publicly accessible information to determine the avoided capacity costs. Duke Kentucky even acknowledged such,[161] but chose to use elements of third-party confidential information instead. The Commission notes that the applicant bears the burden to demonstrate the reasonableness of its proposed avoided capacity costs, and it appears Duke Kentucky disagrees with the public and transparent costs in regard to marginal capacity resources and decided to utilize its own cost estimates and information.

Therefore, the Commission again emphasizes the importance of relying upon publicly available information to calculate net metering avoided capacity costs. Duke Kentucky should use publicly accessible information for avoided capacity costs, such as the NREL ATB, PJM Net CONE or explain why the Commission should rely upon other "confidential" information in future filings in any application, including DSM applications and IRP's. Calculating net metering avoided capacity costs with public information allows customers to be able to access the information used to create their net meter bill credits

[159] Case No. 2020-00174, May 14, 2021 Order at 21–24.

[160] Case No. 2020-00174, May 14, 2021 Order at 24.

[161] Sailers Direct Testimony at 19.

and overall rates. In addition, the Commission also finds that Duke Kentucky should include avoided distribution and avoided transmission in its calculation of its credit rate going forward. Duke Kentucky indicated that it would include those costs should the Commission require it. Lastly, the Commission finds that Duke Kentucky should have a consistent avoided cost methodology with updated values across all future cases going forward rather than relying on outdated information and escalating the values over time.

Avoided Energy Costs

Having reviewed the record and being otherwise sufficiently advised, the Commission finds that Duke Kentucky's method for calculating avoided energy costs is reasonable and should be approved. Duke Kentucky proposed to use forecasted LMP energy prices, as the basis for its avoided energy cost calculation. Duke Kentucky then used its weighted average cost of capital and then discounted the annual average prices through a net present value calculation.[162] The Commission has previously approved the use of actual LMPs to calculate the real-time cost that the utility would otherwise purchase energy.[163] Similarly, LMP forecasts are used to demonstrate the hourly energy prices in which Duke Kentucky can purchase or sell power into the PJM marketplace , and reflect the marginal cost of electricity. Use of LMPs captures the value of energy to the utility at the time that it is delivered.

Duke Kentucky also stated that the avoided environmental cost and avoided carbon costs are imbedded into the avoided energy costs, as environmental costs are included in the forecasted marginal energy prices, and stated there is no additional value

[162] Sailers Direct Testimony at 16.

[163] Case No. 2020-00174, May 14, 2021 Order at 26–27.

for carbon beyond the incorporation of the Inflation Reduction Act of 2022, which was included in the avoided energy cost calculation. The Commission finds that there is no need for any additional values for avoided environmental or carbon costs and in so far as Duke Kentucky excluded those costs, the credit rate calculation is reasonable.

Avoided Ancillary Services Costs

The Commission finds that using forecasted prices for ancillary services are reasonable and should be accepted. However, the Commission expects Duke Kentucky to file additional evidence and testimony in the next NM case regarding the ancillary services based on the IRP findings as well as any other environmental compliance impacts that may impact those costs.

Rider NM-2 Legacy Customers

As noted above, Duke Kentucky proposed to create legacy rights for Rider NM-2 customers whereas such customers that take service under a two-part rate structure may continue to take service under a two-part rate structure for 25 years after the start of service under Rider NM-2.[164] For the reasons set forth below, the Commission finds that eligible customer-generators who take service under Rider NM-2 and a standard rate schedule with a two-part rate structure should be allowed to take service under the current two-part structure[165] for 25 years. The Commission approved a similar provision in Case

[164] Sailers Direct Testimony at 14.

[165] This legacy status is for the *rate structure* only. The Commission is not making any determination as to the appropriate rate amount, such as continuing to charge Rider NM-2 customers the same customer charge and kWh charge as non-participating customers.

Nos. 2020-00174,[166] 2020-00349,[167] and 2020-00350[168] noting that, through establishing legacy rights for Rider NM-1 customers, the legislature determined that there should be some allowance for customer expectation of and reliance on existing rate structures when the eligible generating facility was placed in service, especially given the 25-year expected useful life of current eligible generating facilities. The Commission noted that legacy provisions mitigate the negative financial impact that changes in rate design may have on an eligible customer-generator who invested in an eligible generating facility. Finally, the Commission noted that the 25-year legacy period for Rider NM-2 customers balances a utility's need to adapt to changing circumstances, such as increased penetration levels, with the needs of existing eligible customer-generators who made a long-term investment in eligible generating facilities.

Rider AMO/Temporary Service

Duke Kentucky proposed a provision that would prohibit a customer from taking service under both Rider NM-2 and Rider AMO and one that would prohibit a customer from taking service under the temporary service tariff and Rider NM-2. No intervenor objected to this proposal. The Commission finds that the proposed provisions are reasonable, and that they should be approved for the following reasons. As Duke Kentucky noted, temporary service is typically used for buildings under construction. Construction is generally considered temporary and many times the developer or contractor is not the property owner. In regard to Rider AMO, Duke Kentucky argues the

[166] Case No. 2020-00174, May 14, 2021 Order at 43.

[167] Case No. 2020-00349, Sept. 24, 2021 Order.

[168] Case No. 2020-00350, Sept. 24, 2021 Order.

costs to enable Rider AMO customers[169] to also participate in Rider NM-2 outweigh the benefits considering the Commission would not expect Duke Kentucky to imprudently incur costs to upgrade its billing system and field collection system to only accommodate Rider AMO customers. In response to several post-hearing requests, Duke Kentucky provided additional information to support that the expense of the change to the billing software was substantial and would benefit very few customers, if any, in which the Commission agrees with Duke Kentucky's argument.[170]

Distributed Energy Resource Aggregation

On September 17, 2020, the Federal Energy Regulatory Commission (FERC) issued Order No. 2222 (Order 2222) with the goal of increasing participation of DER Aggregation, such as eligible customer-generators, in the organized wholesale power markets run by regional transmission operators, such as PJM.[171] The FERC issued updates to Order 2222 on March 18, 2021,[172] and June 17, 2021.[173] Order 2222 allows DERs to participate in regional wholesale power markets through aggregation of resources. The FERC has jurisdiction over regional wholesale power markets and the criteria for market participation. Under Order 2222, state authorities retain jurisdiction

[169] Duke Kentucky estimated that such changes would take approximately 12 months to implement at a cost of approximately $1.6 million.

[170] Duke Kentucky's Response to Staff's First Post-Hearing Request, Item 8 and Duke Kentucky's Response to Staff's Second Post-Hearing Request, Item 2.

[171] FERC Order No. 2222: A New Day for Distributed Energy Resources, FERC Order No. 2222: Fact Sheet | Federal Energy Regulatory Commission.

[172] https://www.ferc.gov/media/e-1-rm18-9-002.

[173] https://www.ferc.gov/media/e-4-061721.

over the interconnection of individual DERs that participate in wholesale power markets through a DER aggregator.

On September 1, 2023, PJM filed proposed revisions to its Open Access Transmission Tariff (OATT) and the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C.[174] As part of that filing, PJM set out its policy against double counting or paying the same resource twice for the same service, which Duke Kentucky used to develop its own provision regarding double counting.[175] Duke Kentucky noted the PJM compliance filing is still pending the FERC approval, and there is currently not complete certainty as to the language that will ultimately be approved.[176] On July 25, 2024, the FERC ordered for PJM to update its compliance filing following the directives of the FERC.[177] Currently, PJM's proposed tariff has a procedure in place for an electric distribution's review and verification of a component DER's registration with a DER aggregator.[178]

Given the fact that the PJM compliance filing has not yet been approved by the FERC and the uncertainty flowing therefrom, the Commission finds that Duke Kentucky's proposed provision regarding DER Aggregation participation and Rider NM-1 and Rider NM-2 participation should not be approved at this time. Instead, the Commission approves the following language for both tariffs:

> Customer-generators may be prohibited from simultaneous participation in both this Rider NM-1 and any Energy

[174] Duke Kentucky's Response to Staff's First Post-Hearing Request, Item 5.

[175] Duke Kentucky's Response to Staff's First Post-Hearing Request, Item 5.

[176] Duke Kentucky's Initial Brief at 9.

[177] https://www.pjm.com/-/media/documents/ferc/orders/2024/20240808-er22-962-005.ashx.

[178] Proposed PJM Operating Agreement Schedule 1, section 1.4B.

> Resource Aggregation or any Distributed Energy Resource Aggregator, as those terms are defined by PJM or subsequent Regional Transmission Organization, other than an aggregation formed by Duke Energy Kentucky acting as the aggregator. Customer-generators who desire to participate in PJM markets through a third-party aggregator must contact the Company and such participation may result in termination in this Rider NM-I prior to such PJM market participation.

The Commission notes that this language allows for Duke Kentucky and the customer to engage in a manner that will ensure the procedure set forth in Order 2222 is followed. Upon final Order by the FERC on PJM's compliance filing, Duke Kentucky may include a request in compliance with the Order in its next net metering filing.

Metering Equipment

No Intervenor objected to Duke Kentucky's proposed metering provisions for Rider NM-2. Duke Kentucky's tariff complies with KRS 278.466(2), which states:

> Each retail electric supplier serving a customer with eligible electric generating facilities shall use a standard kilowatt-hour meter capable of registering the flow of electricity in two (2) directions. Any additional meter, meters, or distribution upgrades needed to monitor the flow in each direction shall be installed at the customer-generator's expense.

As noted above, Duke Kentucky's tariff states that it will provide net metering service, at no cost to the customer for metering equipment, through a standard kWh metering system capable of measuring the flow of electricity in two directions. Therefore, the Commission finds that the proposed metering provisions are reasonable and that they should be approved.

Netting Methodology

Based upon the evidence of record, the Commission finds that Duke Kentucky's proposed netting methodology for Rider NM-2, as revised below, is reasonable and should be approved. As Duke Kentucky correctly notes, the plain language of KRS 278.465(4) provides that "net metering means the difference between" the dollar value of all electricity generated by an eligible customer-generator that is exported to the grid over a billing period and the dollar value of all electricity consumed by the eligible customer-generator over the same billing period. The Commission is not persuaded by the Joint Intervenors' argument that Duke Kentucky's netting methodology is inconsistent with the plain language of KRS 278.465(4) and with the Commission's September 24, 2021 and November 4, 2021 Orders in Case No. 2020-00349 and Case No. 2020-00350. The Commission specifically stated in its answer to the Franklin Circuit Court Appeal, 021-CI-00872[179] that the plain language of the September 24, 2021 and November 4, 2021 Order are consistent with KRS 278.465 and that, consistent with those Orders, KU/LG&E filed, and the Commission accepted KU/LG&E's NMS-2 tariffs which reflected the methodology approved by the Commission.

As noted above, Duke Kentucky has proposed to net the dollar values of the electricity delivered to the grid from the eligible customer generator with the dollar value of the electricity delivered by Duke Kentucky to the eligible customer-generator subject to the minimum bill provisions of the customer's rate schedule. In doing so, Duke Kentucky would be netting the dollar value of the energy exported to the grid with portions of the customer's bill that are not per kWh charges, such as the Home Energy Assistance

[179] *Ky. Utils. Co. & Louisville Gas & Elec. Co.*, Case No. 21-CI-00872 (Franklin Cir. Ct. Dec. 15, 2021.

charge, which is a flat fee, and the Environmental Surcharge, which is a percentage of bill fee. The Commission finds that, because the energy charge is based upon electricity consumed, the dollar amount of energy exported to Duke Kentucky's distribution system by a Rider NM-2 customer should be netted against the energy charge and any rider that is based on a per kWh charge.

Unused Excess Bill Credits/Joint Accounts

No Intervenor objected to Duke Kentucky's proposed provisions regarding unused excess billing credits for Rider NM-2 customers. In regard to the provision for joint accounts, a similar provision was approved by the Commission in Case Nos. 2020-00349 and 2020-00350. The approved provision protected the banked unused excess bill credits of joint account holders in situations where one of the joint account holders was removed from the account. The remaining provisions relating to unused excess bill credits comply with KRS 278.466(4), in that unused excess bill credits carryforward to the customer's next bill and that they are not transferable between customers or premises. Therefore, the Commission finds that the proposed provisions relating to unused excess billing credits and joint accounts for Rider NM-2 customers are reasonable and should be approved. The Commission also finds that the joint account provision should be included in Rider NM-1 to protect the rights of joint account holders served under that tariff.

Collecting Avoided Cost Excess Generation Credits through Rider FAC

No Intervenor objected to Duke Kentucky's proposal to collect Rider NM-2 avoided cost excess generation credits through Rider FAC. The Commission finds that it is reasonable for Duke Kentucky to collect through its Rider FAC the avoided cost excess

generation credits made to customers under Rider NM-2 because the credits are a purchased power expense for net energy exported to the grid under Rider NM-2.

Interconnection Guidelines and Application Forms

No Intervenor objected to Duke Kentucky's proposal to move its interconnection guidelines to a new tariff or to the proposed revisions to the Interconnection Approval Form and the Level 1 and Level 2 Applications for Interconnection and Net Metering. The Commission finds that the proposed revisions are reasonable, and they should be approved as the revisions are non-substantive in nature.

IT IS THEREFORE ORDERED that:

1. The rates and charges proposed by Duke Kentucky in Rider NM-2 are denied.

2. The rates and charges for Duke Kentucky's Rider NM-2, as set forth in the Appendix to this Order, are fair, just and reasonable rates.

3. Duke Kentucky's Rider NM-1 shall be modified as described in this Order.

4. Duke Kentucky's Rider NM-2 shall be modified as described in this Order.

5. Duke Kentucky's proposal to remove the Interconnection Guidelines from Rider NM-1 and place them in a separate tariff is approved.

6. Duke Kentucky's proposed revisions to the Interconnection Approval Form and the Level 1 and Level 2 Applications for Interconnection and Net Metering are approved.

7. Duke Kentucky shall file an application to update its NM tariff and rates either 60 days after the conclusion of its 2024 IRP case or 90 days prior to Duke Kentucky

reaching its 1 percent net metering cap pursuant to KRS 278.466(1), whichever occurs first.

8. Within 20 days of the date of service of this Order, Duke Kentucky shall file with the Commission, using the Commission's electronic Tariff Filing System, new tariff sheets setting forth the rates, charges, and modifications approved or as required herein and reflecting their effective date and that they were authorized by this Order.

9. The case shall be closed and removed from the Commission's docket.

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PUBLIC SERVICE COMMISSION

Chairman

Commissioner

Commissioner

ENTERED

OCT 11 2024

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KENTUCKY PUBLIC SERVICE COMMISSION

ATTEST:

Executive Director

APPENDIX

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2023-00413 DATED OCT 11 2024

The following rates and charges are prescribed for the customers in the area served by Duke Energy Kentucky, Inc. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under the authority of this Commission prior to the effective date of this Order.

Rider NM-2
Excess Generation Avoided Cost Credit Rate

The Company will provide a bill credit for each kWh Customer produces to the Company's grid using the rate below.

Residential:	$ 0.062924 per kWh
Non-Residential:	$ 0.063255 per kWh

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