COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC TARIFF FILING OF KENTUCKY UTILITIES COMPANY FOR APPROVAL OF AN ECONOMIC DEVELOPMENT RIDER SPECIAL CONTRACT WITH KRUGER PACKAGING	)))))	**CASE NO. 2022-00395**

RESPONSE OF
KENTUCKY UTILITIES COMPANY
TO
THE COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION
DATED JANUARY 12, 2023

FILED: JANUARY 26, 2023

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **John Bevington**, being duly sworn, deposes and says that he is Director – Business and Economic Development for Kentucky Utilities Company, an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

John Bevington

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 25th day of January 2023.

Caroline J. Davison
Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

CAROLINE J. DAVISON
COMM EXPIRES 01/22/2027
NOTARY PUBLIC
ID # KYNP63286
STATE AT LARGE, KENTUCKY

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Michael E. Hornung**, being duly sworn, deposes and says that he is Manager – Pricing/Tariffs for Kentucky Utilities Company, and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Michael E. Hornung

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 25th day of January 2023.

Caroline J. Davison
Notary Public

Notary Public ID No. KYNP63286

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VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is Director – Energy Planning, Analysis & Forecasting for Kentucky Utilities Company, an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Stuart A. Wilson

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 25th day of January 2023.

Caroline J. Davison
Notary Public

Notary Public ID No. KYNP63286

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KENTUCKY UTILITIES COMPANY

Response to Commission Staff's Second Request for Information
Dated January 12, 2023

Case No. 2022-00395

Question No. 1

Responding Witness: John Bevington

Q-1. Refer to the Application, Contract For Electric Service. In May of 2027 when the contracted 3,500 kW expands to 4,500 kW, and a new service contract is signed, explain what happens to the current contract and how the new contract will be structured including rates, discounted rates and the timing of discounted rates, if any.

A-1. The comment to which the request refers in the Kruger Packaging ("Kruger") Contract for Electric Service is merely an informational note, not a binding term or provision. Based on Kruger's expected load (including increasing to 4,500 kW by May 2027), current tariff provisions, and facilities in place to serve Kruger, KU does not expect to enter into a new contract with Kruger because it is expected to remain eligible for service under Rate TODS, i.e., its twelve-month-average monthly maximum loads are not expected to exceed 5,000 kVA.

Under the terms of KU's EDR Rider and the EDR contract, all of Kruger's demand charges will be eligible for then-applicable demand charge discounts for the first five years of the EDR contract term, even if Kruger's demand increases from 3,500 kW to 4,500 kW. The EDR contract cites 3,500 kW of demand solely to demonstrate that Kruger's load meets the requirements of EDR, not to cap the amount of demand eligible for EDR discounts.

KENTUCKY UTILITIES COMPANY

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Question No. 2

Responding Witness: John Bevington / Michael E. Hornung

Q-2. Refer to the Application, Special Contract Economic Development Rider.

a. Confirm that Kruger Packaging (USA) LLC (Kruger) will receive demand discounts for the first five years of the ten-year contract only and that there are no other discounted tariffed rates associated with the addition of this customer. If this cannot be confirmed, explain the discounted rates.

b. Provide the deposit amount Kruger has or will remit to KU as a part of the tariff contract and explain whether the deposit amount is based on 2/12 of the customer's average monthly billing at full tariffed rates or discounted rates.

c. In the event of a default, explain why Kruger is not required to reimburse KU for all of the discounted demand charges received to-date.

A-2.

a. Confirmed.

b. Kruger will remit a deposit of $117,500, which is two times Kruger's recent average bill under KU's full tariffed rates.

c. In all KU's Commission-accepted Economic Development Rider ("EDR") contracts prior to 2022, there are no EDR credit repayment requirements. KU implemented a phased EDR repayment requirement beginning with 2022 EDR contracts, two of which the Commission has already accepted (Central Motor Wheel America and Danimer Scientific KY Inc.).[1] The credit repayment requirement section now exists to reinforce that the EDR credits

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[1] The Commission accepted the Central Motor Wheel America special contract and EDR contract effective April 30, 2022. It is available at: https://psc.ky.gov/tariffs/Electric/Kentucky%20Utilities%20Company/Contracts/Current/Central%20Motor%20Wheel%20America/2022-04-30_Contract%20for%20Electric%20Service.pdf.
The Commission accepted the Danimer Scientific KY Inc. special contract and EDR contract for new service effective August 17, 2022. It is available at: https://psc.ky.gov/tariffs/Electric/Kentucky%20Utilities%20Company/Contracts/Current/Danimer%20Scientific,%20Inc/2022-08-17_Contract%20for%20Electric%20Service%20with%20EDR%20(new%20service).pdf.

are meant to incentivize the retention and expansion of existing, and attraction of new, long-term operations in Kentucky. The phased EDR discount repayment terms help balance a company's commitment to long-term operations while also not burdening these growing companies with liabilities that could ultimately hinder long-term success.

By way of comparison, the Kentucky Business Investment program, which is a tax incentive program the Cabinet for Economic Development administers and the Kentucky Economic Development Finance Authority approves, is similarly performance based and does not require incentives to be repaid if a recipient ceases operations prior to the end of the term of agreement.[2] Therefore, KU's requirements are market competitive and in some ways more stringent than other programs offered by Kentucky for economic development purposes.

Notably, the Commission recently approved two EDR contracts that did not require a full refund of EDR credits for termination of service prior to the end of the contract term regardless of when the customer terminates.[3] One such approval was for an EDR contract with EDR credit repayment terms similar to—but less stringent than—those included in the Kruger EDR contract.[4]

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[2] *See* "Just the Facts: Kentucky Business Investment Program," (July 2022), available at https://cedky.com/cdn/1740_KBIFactSheet.pdf?43.

[3] *Electronic Tariff Filing of East Kentucky Power Cooperative, Inc. for Approval of a Special Contract pursuant to Its Interruptible Service Tariff and Economic Development Rider between It, Jackson Energy Cooperative Corporation, and UMine, LLC*, Case No. 2022-00355, Order (Ky. PSC Oct. 31, 2022); Case No. 2022-00355, EKPC Contract Filing, Industrial Power Agreement with Interruptible Service and Economic Development Rider at 11-12 (Sept. 30, 2022) (providing 75% EDR credit repayment for early termination in first five years and 50% repayment in second five years); *Electronic Tariff Filing of Big Rivers Electric Corporation and Jackson Purchase Energy Corporation for Approval and Confidential Treatment of a Special Contract and Cost Analysis Information and a Request for Deviation from the Commission's September 24, 1990 Order in Administrative Case No, 327*, Case No. 2021-00282, Order at 17-18 (Ky. PSC Oct. 14, 2021); Case No. 2021-00282, Application, Attachment 4, "Big Rivers Wholesale Agreement." Exhibit C Sections B and C at 2-4 (June 21, 2021).

[4] *See* Case No. 2022-00355, EKPC Contract Filing, Industrial Power Agreement with Interruptible Service and Economic Development Rider at 11-12 (Sept. 30, 2022) (providing 75% EDR credit repayment for early termination in first five years and 50% repayment in second five years).

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Question No. 3

Responding Witness: Michael E. Hornung

Q-3. Refer to the Application, Attachment 4 Marginal cost of Service Study, Attachment B, page 5. Explain why a common equity rate of 9.25 percent was not used in the weighted average cost of capital calculation and the effect if that rate is used.

A-3. The Marginal Cost of Service Study used 9.425% (display on page 5 of 5 is only to two digits) because that is the base rate return on equity ("ROE") the Commission most recently authorized for KU.[5] Although it is unclear why it would be appropriate to use an ROE of 9.25%, doing so would reduce the Marginal Cost of Service Study's weighted average cost of capital ("WACOC") from 6.87% to 6.78% and its tax-adjusted WACOC from 6.41% to 6.32%.

[5] *Electronic Application of Kentucky Utilities Company for an Adjustment of Its Electric Rates, a Certificate of Public Convenience and Necessity to Deploy Advanced Metering Infrastructure, Approval of Certain Regulatory and Accounting Treatments, and Establishment of a One-Year Surcredit*, Case No. 2020-00349, Order at 23 (Ky. PSC June 30, 2021) ("[T]he Commission finds that a 9.425 percent ROE for KU's electric operations is fair, just and reasonable ….").

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Question No. 4

Responding Witness: Michael E. Hornung / Stuart A. Wilson

Q-4. Refer to KU's response to Commission Staff's First Request for Information (Staff's First Request), Item 1a. Case No. 2022-00402[6] is not part of the record in this case.

a. Explain whether KU is requesting that the analysis submitted in Case No. 2022-00402 be incorporated into this proceeding.

b. In the alternative, provide the specific analysis submitted as a part of Case No. 2022-00402 including all relevant testimony and support for the analysis.

A-4. KU is not requesting to incorporate any portion of the record of Case No. 2022-00402 into the record of this proceeding. KU is observing that across at least three recent analyses KU filed in the Commission's records, when natural gas combined cycle ("NGCC") technology without a carbon capture and sequestration ("CCS") requirement is available for models to select as the next generating unit for KU and its sister utility, Louisville Gas and Electric Company ("LG&E"), the models select it every time:

- KU and LG&E's (the "Companies") models in the 2021 IRP proceeding added NGCC rather than SCCT capacity when CCS was not a requirement for NGCC (and added NGCC, with and without CCS in varying combinations, at carbon prices ranging from $0 to $150 per ton).[7]
- The capacity expansion plans conducted by an outside consultant, Guidehouse, Inc., as part of KU and LG&E's most recent RTO membership

[6] Case No. 2022-00402, *Electronic Joint Application of Kentucky Utilities Company and Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Site Compatibility Certificates and Approval of a Demand Side Management Plan* (tendered Dec. 15, 2022).
[7] Case No. 2021-00393, Companies' Response to PSC 2-1 (Mar. 25, 2022); Case No. 2021-00393, Companies' Response to PSC PHDR 1-1 (Aug. 8, 2022).

analysis indicated that adding NGCC capacity in 2028 was optimal in both the standalone and RTO membership scenarios with no carbon pricing.[8]

- The Companies' modeling in Case No. 2022-00402 selected NGCC technology to meet the Companies' capacity needs beginning in 2028 due to anticipated coal unit retirements.[9]

KU asks the Commission to take official notice of this technical fact, i.e., in three recent analysis filed by the Companies, when NGCC technology without a CCS requirement is available for the models to select as the next generating unit, the models select it every time, as a fact within Commission's specialized knowledge. Moreover, the next unit the Companies have actually proposed to construct to provide around-the-clock capacity and energy is a 621 MW NGCC unit at the Mill Creek Generating Station.[10] Therefore, it was and is reasonable to evaluate the marginal production demand cost of service to Kruger based on the cost of an NGCC unit.

[8] Case No. 2020-00349, LG&E-KU 2022 RTO Membership Analysis at 19-21 and Exhibit 2 at 3-35 – 3-38 (Nov. 14, 2022).
[9] Case No. 2022-00402, Testimony of Stuart A. Wilson, Exh. SAW-1 (Dec. 15, 2022).
[10] *See, e.g.,* Case No. 2022-00402, Joint Application (Dec. 15, 2022).

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Question No. 5

Responding Witness: Michael E. Hornung

Q-5. Refer to KU's response to Staff's First Request, Item 1b. Provide a cost benefit analysis showing that over the ten year life of the contract, KU profits from the contract and that its ratepayers do not subsidize the EDR contract.

A-5. See attachment being provided in Excel format. The analysis shows that base rate revenues from Kruger Packaging ("Kruger") will likely exceed its marginal cost of service by about $4.2 million over 10 years. Accounting for full recovery of Kruger's customer-specific costs of $161,123, Kruger will still provide revenues in excess of its marginal cost of service of over $4 million over 10 years. Note that this likely *understates* the amount by which revenue from Kruger will exceed its marginal cost of service because the analysis does not include adjustment clause mechanism revenues, including the Fuel Adjustment Clause mechanism. Therefore, there is no reason to expect that other customers will subsidize Kruger at any time during the EDR Contract.

The attachment is being provided in a separate file in Excel format.

KENTUCKY UTILITIES COMPANY

Response to Commission Staff's Second Request for Information
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Question No. 6

Responding Witness: Michael E. Hornung

Q-6. Refer to KU's response to Staff's First Request, Item 2. Explain why it is appropriate to convert the CP transmission cost from $0.02/kW to the NCP cost of $0.01/kW. Include in the response whether Kruger plans to interrupt or will be operating during periods when KU will expect to be generating during coincident peak periods.

A-6. See the "Marginal Transmission Cost" section at page 10 of the Marginal Cost Study. It is impossible to know *ab initio* how much load any customer will have on the system at the time of a system coincident peak. KU therefore applies an average coincidence factor (61.26%) to the transmission cost per CP kW to arrive at the NCP transmission cost per kW. In other words, applying the NCP cost per kW in calculating the marginal cost of a prospective customer load is equivalent to assuming that the customer will require *on average* 61.26% of its *maximum* load to be served during *all 12* monthly coincident peaks. Applying the NCP cost is *not* the same as saying the customer will have *no load* on KU's system during any or all monthly coincident peaks. If a prospective customer agreed to interrupt all of its load during all system peak periods, the appropriate marginal transmission cost to apply to that customer would be zero, not the NCP cost.

Kruger has estimated its EDR-eligible load will have a load factor of 74%. It is not on an interruptible rate, and KU is not aware of any plan for Kruger to interrupt during monthly system peaks, but a 74% load factor makes a 100% coincidence factor unlikely at best. Nonetheless, and solely for the sake of argument, even if one were to assume a 100% coincidence factor and applied a full CP cost, as noted in KU's response to PSC 1-2, Kruger's marginal transmission cost would be $70 per month rather than $35, which is immaterial to the analysis.

KENTUCKY UTILITIES COMPANY

Response to Commission Staff's Second Request for Information
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Case No. 2022-00395

Question No. 7

Responding Witness: Michael E. Hornung

Q-7. Refer to KU's response to Staff's First Request, Item 3. Confirm that the remaining $161,123 of customer specific costs will be recovered from Kruger over the life of the EDR contract and provide the mechanism for this recovery. It this cannot be confirmed, explain.

A-7. The mechanism by which KU will recover the $161,123 of customer-specific costs over the life of the EDR contract will be through demand rates in excess of Kruger's marginal cost. As shown in the "Comparison of KU Standard Time-of-Day Secondary Rate with Economic Development Rider to Marginal Cost" included at the end of the contract filing, the average discounted demand charge per kW-month for Kruger would be $12.74 at current rates for the first five years of the contract, and the marginal demand cost is $3.86 per kW-month (assuming a full CP production cost of $3.84/kW-month and a full CP transmission cost of $0.02/kW-month).[11] Applying those values to 3,500 kW of demand across 60 months of the EDR discount period results in demand revenues in excess of demand-related marginal costs of $372,960, which is more than double the customer-specific costs of $161,123. Over the remaining 60 months of the EDR contract (when EDR discounts do not apply), demand revenues will exceed marginal demand-related costs by more than $600,000. Thus, it is reasonable to expect that Kruger will pay far more than its customer-specific and marginal costs over the EDR contract term; indeed, it will do so well within the first five years of the EDR contract term.

This approach is also consistent with KU's Line Extension Plan, which states in relevant part:

> Where <u>Non-Residential</u> Customer requires poly-phase distribution service or transformer capacity in excess of 25 kVA and Company provides such facilities, Company shall provide at its own expense the requested line extension, but only to the extent that the cost of the requested extension does not exceed … five (5) times

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[11] *See* Marginal Cost Study at 9 for the $3.84/kW-month full CP production cost and Marginal Cost Attachment D for the full CP transmission cost of $0.02/kW-month.

> Customer's estimated annual net revenue, where "net revenue" is defined as Customer's total revenue less base fuel, Fuel Adjustment Clause, Off-System Sales, Demand Side Management, franchise fees, and school taxes. … Customer must commit to a minimum contract term of five (5) years.[12]

Note that, as calculated above, five times Kruger's projected annual net revenue (as defined in the Line Extension Plan) far exceeds the cost of Kruger's customer-specific facilities and that the EDR Contract obligates Kruger to take service for ten years.[13]

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[12] Kentucky Utilities Company, P.S.C. No. 20, Original Sheet No. 106.1, Section 4.b (emphasis in original).

[13] The EDR Contract incorporates the terms of KU's EDR tariff provisions, which state in the Term of Contract section, "Service will be furnished under the applicable rate schedule and this rider, filed as a special contract with the Commission, for a fixed term of not less than ten (10) years …." Kentucky Utilities Company, P.S.C. No. 20, Original Sheet No. 71.3.

KENTUCKY UTILITIES COMPANY

**Response to Commission Staff's Second Request for Information
Dated January 12, 2023**

Case No. 2022-00395

Question No. 8

Responding Witness: Michael E. Hornung / Stuart A. Wilson

Q-8. Refer to the Application, Attachment 4 Marginal cost of Service Study, Table 4, page 11 and to KU's response to Staff's First Request, Item 4. In the marginal cost study, KU calculates incremental demand, energy and transmission costs and states that distribution cost do not apply. In its response to Item 4, KU essentially states that the incremental rates are too high and produce unreasonable results. However, KU does not explain why each of the other NMS 2 incremental rates should not apply. For example, provide reasons why incremental carbon costs should be zero and why there are no incremental environmental compliance costs incurred with an incremental production of energy or that the environmental compliance costs are too high.

A-8. KU respectfully disagrees with the characterization of its response to PSC 1-4 as "essentially stat[ing] that the [NMS-2 demand, energy and transmission] incremental rates are too high and produce unreasonable results." KU noted that the data underlying the Commission's NMS-2 components is now stale, in addition to "KU's other reservations of record about the approach the Commission adopted in Case No. 2020-00349 to set NMS-2 rates." KU's further demonstrated that applying the entire NMS-2 avoided cost rate to Kruger's projected billing produced implausible results overall.

A summary of KU's observations and concerns about applying each of the NMS-2 avoided cost components is below:

- **Avoided Energy Cost ($0.02526/kWh).** This value demonstrates the staleness of the data. The Marginal Cost Study uses a higher value ($0.03447/kWh), which KU believes is appropriate. In comparing marginal cost to revenue from a prospective EDR customer such as Kruger, though, completeness requires considering Fuel Adjustment Clause and other adjustment clause mechanism revenue.

- **Ancillary Services ($0.00084/kWh).** KU is not an RTO member and therefore does not purchase ancillary services to serve native load customers;

rather, ancillary services, which are simply generator attributes, are inherently included in marginal production cost in the Marginal Cost Study.[14]

- **Avoided Generation Capacity Cost ($0.02106/kWh).** This component is markedly too high because of the means of its calculation. It is not a *marginal* cost at all; rather, it is the full cost of a combustion turbine spread over its expected energy production.[15] But combustion turbines (and other generating units) are not purchased one kWh at a time, which is why the Marginal Cost Study does not calculate marginal production costs that way. Instead, the appropriate EDR question for marginal cost purposes when a utility does not have a capacity need in the relevant time frame is what the effect, if any, would be if adding the EDR customer would accelerate the need for the utility's next generating unit (which would not be a simple-cycle combustion turbine for KU, though that is the value the Commission used to calculate its avoided generation capacity cost for NMS-2). As the Marginal Cost Study shows, the appropriate *marginal* cost to use for EDR calculations—accelerating the next generating unit by one year—is $2.32/kW-month, which is an intuitively reasonable marginal cost associated with accelerating a single (albeit significant) generating unit by one year (about 15.5% of the sum of the current TODS intermediate and peak demand charges, which are designed to recover embedded generation cost). Using the NMS-2 avoided generation capacity cost for Kruger would result in a cost of $11.38/kW-month, *which is more than 75% of the sum of the current TODS intermediate and peak demand charges*.[16] Yet it cannot be the case that the cost of merely accelerating one generating unit by one year is more than 75% of the embedded cost of the entire existing generating fleet when the capital cost of the unit being accelerated would be just 12.4% of the embedded cost of existing generating fleet used to formulate the TODS intermediate and peak demand charges.[17] This shows that applying the NMS-2 avoided generation

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[14] Notably, the Commission's calculation of its NMS-2 ancillary services component is simply 4% of its avoided generation capacity cost component precisely because ancillary services are generator attributes, not genuinely separate services. *See* Case No. 2020-00349, Order Appendix at 2 (Ky. PSC Nov. 4, 2021).

[15] Case No. 2020-00349, Order at 33-38 and 50-51 (Ky. PSC Sept. 24, 2021).

[16] Multiplying the NMS-2 avoided generation capacity cost component ($0.02106/kWh) by the projected average monthly number of kWh to be used by Kruger (1,890,700 kWh assuming a 74% load factor and a load of 3,500 kW) results in a monthly marginal production demand cost of $39,818.14. Dividing that by Kruger's assumed demand of 3,500 kW equals $11.38/kW-month. The sum of KU's TODS intermediate ($6.66/kW-month) and peak ($8.28/kW-month) demand charges equals $14.94/kW-month. Dividing $11.38/kW-month by $14.94/kW-month equals 76.2%.

[17] KU's net production plant calculated in its 2020 rate case was $3.68 billion. (Case No. 2020-00349, Direct Testimony of W. Steven Seelye Exh. WSS-31 at 3 (Nov. 25, 2020). As proposed in Case No. 2022-00402, the next NGCC unit for KU will be the Mill Creek NGCC, which has an estimated capital cost of $662 million, and of which KU will own 69%, i.e., a KU capital investment of $456.8 million. Therefore, it is appropriate to compare the $456.8 million capital cost for the next unit to the net electric production plant of KU embedded in current rates ($3.68 billion), which equals 12.4%. Even if the entire next unit were allocated to KU, $662 million divided by $3.68 billion is 18%, showing that applying the NMS-2 avoided generation

capacity cost value in the EDR marginal cost context is fundamentally flawed and produces implausible results.

- **Avoided Transmission Capacity Cost ($0.00732/kWh) and Avoided Distribution Capacity Cost ($0.00185/kWh).** Applying these NMS-2 cost components as marginal costs in the EDR context has the same flaws as discussed above concerning avoided generation capacity cost: neither is a marginal cost at all,[18] and they significantly overstate any plausible marginal cost of adding Kruger as a customer. (Note that the costs at issue here are system costs, not customer-specific costs, which KU has addressed in response to Question No. 7.) Applying these NMS-2 avoided cost components to Kruger's projected energy use (as described above) would result in an NMS-2-based monthly marginal transmission and distribution cost of $17,337.72, which is equivalent to $4.95/kW-month.[19] That is 152% of KU's base demand charge for TODS, which is the charge designed to recover the entire embedded allocated cost of KU's transmission and distribution system for Rate TODS. This again demonstrates the implausibility of applying NMS-2 avoided cost components in an EDR marginal cost context; KU has identified *no* transmission or distribution system upgrades necessary to accommodate Kruger, *yet applying these NMS-2 components indicates a marginal cost of more than one and half times the entire embedded cost of KU's existing transmission and distribution system*.

- **Avoided Environmental Compliance Cost ($0.00397/kWh).** Applying this NMS-2 cost component as a marginal cost in the EDR context has the same flaws as discussed above concerning avoided generation capacity, transmission, and distribution cost: it is not a marginal cost at all,[20] and it significantly overstates any plausible marginal cost of adding Kruger as a customer. First, as the Commission explained in its order setting forth the NMS-2 avoided cost components, the avoided environmental cost component is neither avoided nor marginal; rather, it is an average cost of KU's CCR and ELG compliance costs.[21] Notably, KU will incur and is incurring those costs irrespective of Kruger's taking service because they relate to *existing* coal units, not the next, *marginal* generating unit, which will not be a coal-fired unit and therefore will have no CCR or ELG costs. Thus, the entire cost basis

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capacity cost component as a marginal cost—which indicates marginal cost impact of more than 75% resulting from accelerating the unit by one year—is dramatically flawed.

[18] Case No. 2020-00349, Order at 51-54 (Ky. PSC Sept. 24, 2021).

[19] Multiplying the sum of the NMS-2 transmission ($0.00732/kWh) and distribution ($0.00185/kWh) avoided costs by Kruger's projected average monthly number of kWh (1,890,700 kWh assuming a 74% load factor and a load of 3,500 kW) results in a monthly marginal transmission and distribution cost of $17,337.72. Dividing that amount by Kruger's projected monthly demand of 3,500 kW equals $4.95/kW-month.

[20] Case No. 2020-00349, Order at 56-57 (Ky. PSC Sept. 24, 2021).

[21] *Id.*

for the NMS-2 avoided cost component has no application to an EDR marginal cost calculation.

Second, applying this NMS-2 avoided cost component to Kruger's projected energy use (as described above) would result in an NMS-2-based monthly marginal environmental cost of $7,506.08.[22] *That amount would be between 279% and 329% of the entire ECR adjustment clause charge Kruger would incur at full load and full demand-charge billing*.[23] This demonstrates yet again the implausibility of applying NMS-2 avoided cost components in an EDR marginal cost context.

- **Avoided Carbon Cost ($0.01338/kWh).** There are a number of reasons it would be improper to apply this NMS-2 component to calculating the marginal cost of adding Kruger to KU's system, but two will suffice here. First, none of KU's customers pay a carbon cost in their current rates because KU does not pay a cost of carbon to provide service; there is no cost of carbon embedded in base rates, and certainly not in KU's demand rates, and therefore no means by which affording Kruger temporary demand discounts under EDR could result in other customers providing a demand-charge subsidy to Kruger.

  Second, every carbon tax or other carbon cost approach of which KU is aware is based on carbon emissions, not an underlying generation technology. Emissions track with energy production, not the capital cost of generating units. The most rational approach to recovering such a carbon cost would be through an energy-based, per-kWh charge, not a demand charge. Under EDR, Kruger would receive temporary *demand* charge discounts, not *energy* charge discounts. Thus, Kruger would pay any carbon cost its energy consumption created just as would any other customer; the carbon cost and the carbon-charge revenues would net to zero, creating zero subsidy to Kruger. Therefore, if the Commission were inclined to include a marginal carbon cost in its EDR calculations, it must also include offsetting carbon revenues. Both values are zero under current conditions.

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[22] Multiplying the NMS-2 environmental cost ($0.00397/kWh) by Kruger's projected average monthly number of kWh (1,890,700 kWh assuming a 74% load factor and a load of 3,500 kW) results in a monthly marginal environmental cost of $7,506.08.

[23] For TODS customers like Kruger, the ECR adjustment clause produces a charge each month that is a percentage of the customer's non-fuel charges. For TODS, that is currently the sum of the Basic Service Charge, demand charges, and 2.5% of the energy charges; for Kruger's projected billing that sum is $65,240.60 per month. Recent ECR adjustment clause percentages applied to non-fuel revenues have ranged from 3.5% to 4.12%, which applied to Kruger's projected non-fuel revenues would be $2,283.42 and $2,687.91, respectively. The NMS-2 environmental cost value for Kruger ($7,506.08) divided by those ECR adjustment clause values are 329% and 279%, respectively.

KENTUCKY UTILITIES COMPANY

Response to Commission Staff's Second Request for Information
Dated January 12, 2023

Case No. 2022-00395

Question No. 9

Responding Witness: Michael E. Hornung

Q-9. Refer to KU's Response to Staff's First Request, Item 6. Refer also to Case Nos. 2014-00034,[24] Case No. 2014-00047,[25] 2014-00192,[26] and 2016-00117.[27] In these cases, the Commission either expressly approved the application of discounts to the entire load or approved contracts that applied to an amount above a base threshold. Further explain KU's justification for its interpretation of this requirement to mean that the discount rate applies to the entire billing demand.

A-9. To clarify, KU's response to PSC 1-6 intended to refer only to how the Commission has interpreted *KU's* EDR tariff text and consistently permitted *KU* to apply EDR demand discounts under tariff text that has been essentially unchanged for more than a decade. KU did not intend to state that the Commission had necessarily applied other utilities' EDR tariff text in the same manner, at least in part because other utilities' EDR provisions differ from KU's.

That aside, of the four cases cited in this request, three of the final orders in those cases approved EDR tariff provisions that applied EDR demand discounts to the

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[24] Case No. 2014-00034, *Application of East Kentucky Power Cooperative, Inc. for Approval of an Economic Development Rider* (Ky. PSC June 20, 2014).
[25] Case No. 2014-00047, *Application of Jackson Energy Cooperative Corporation for Approval of an Economic Development Rider* (Ky. PSC June 20, 2014).
[26] Case No. 2014-00192, *Application of Taylor County RECC for Approval of an Economic Development Rider* (Ky. PSC August 18, 2014).
[27] Case No. 2016-00117, *Electronic Joint Application of Kenergy Corp. and Big Rivers Electric Corporation for Approval of Contracts* (Ky. PSC June 30, 2016).

full amount of added load,[28] just as KU's EDR tariff provision does.[29] In the fourth case, the Commission approved a four-year, *90% demand charge discount* for load added above the customer's previous demand plus 1 MW.[30] KU therefore concludes that the Commission has approved for different utilities at least two different approaches to the amount of load that can qualify for EDR discounts, and it has certainly approved different levels of demand charge discounts, including levels far above KU's. Of the cited cases, all but one of them are consistent with the approach the Commission approved for KU's EDR tariff and has consistently permitted KU to apply for more than a decade. It is unclear what further justification would be required for KU to apply, and for the Commission to continue to permit KU to apply, KU's EDR tariff provision as the Commission has consistently interpreted and applied it.

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[28] *Application of East Kentucky Power Cooperative, Inc. for Approval of an Economic Development Rider*, Case No. 2014-00034, Order at 6-7 (Ky. PSC June 20, 2014)(approving the EDR tariff proposal of East Kentucky Power Cooperative, Inc. to apply EDR discounts to all added EDR load); *Application of Jackson Energy Cooperative Corporation for Approval of an Economic Development Rider*, Case No. 2014-00034, Order at 4 (Ky. PSC June 20, 2014) (approving the EDR tariff proposal of Jackson Energy Cooperative Corporation to apply EDR discounts to all added EDR load); *Application of Taylor County RECC for Approval of an Economic Development Rider*, Case No. 2014-00192, Order at 3-4 (Ky. PSC Aug. 18, 2014) (approving the EDR tariff proposal of Taylor County Rural Electric Cooperative Corp. to apply EDR discounts to all added EDR load).

[29] Kentucky Utilities Company, P.S.C. No. 20, Original Sheet No. 71. *See also Application of Louisville Gas and Electric Company and Kentucky Utilities Company to Modify and Rename the Brownfield Development Rider as the Economic Development Rider*, Case No. 2011-00103, Order (Ky. PSC Aug. 11, 2011).

[30] *Joint Application of Kenergy Corp. and Big Rivers Electric Corp. for Approval of Contracts*, Case No. 2016-00117, Order (Ky. PSC June 30, 2016).