

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 ) CASE NO. 2023-00413  
TARIFF APPROVAL )

**TENDERED FIRST SET OF REQUESTS TO DUKE ENERGY KENTUCKY,  
INC. FOR INFORMATION FROM JOINT MOVANTS FOR JOINT  
INTERVENTION KENTUCKY SOLAR ENERGY SOCIETY AND  
KENTUCKIANS FOR THE COMMONWEALTH**

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Commonwealth*

Dated: January 19, 2024

## DEFINITIONS

1. "Document" means the original and all copies (regardless of origin and whether or not including additional writing thereon or attached thereto) of any memoranda, reports, books, manuals, instructions, directives, records, forms, notes, letters, or notices, in whatever form, stored or contained in or on whatever medium, including digital media.
2. "Study" means any written, recorded, transcribed, taped, filmed, or graphic matter, however produced or reproduced, either formally or informally, a particular issue or situation, in whatever detail, whether or not the consideration of the issue or situation is in a preliminary stage, and whether or not the consideration was discontinued prior to completion.
3. "Person" means any natural person, corporation, professional corporation, partnership, association, joint venture, proprietorship, firm, or the other business enterprise or legal entity.
4. A request to identify a natural person means to state his or her full name and business address, and last known position and business affiliation at the time in question.
5. A request to identify a document means to state the date or dates, author or originator, subject matter, all addressees and recipients, type of document (e.g., letter, memorandum, telegram, chart, etc.), identifying number, and its present location and custodian. If any such document was but is no longer in the Company's possession or subject to its control, state what disposition was made of it and why it was so disposed.
6. A request to identify a person other than a natural person means to state its full name, the address of its principal office, and the type of entity.
7. "And" and "or" should be considered to be both conjunctive and disjunctive, unless specifically stated otherwise.
8. "Each" and "any" should be considered to be both singular and plural, unless specifically stated otherwise.

9. Words in the past tense should be considered to include the present, and words in the present tense include the past, unless specifically stated otherwise.
10. "You" or "your" means the person whose filed testimony is the subject of these data requests and, to the extent relevant and necessary to provide full and complete answers to any request, "you" or "your" may be deemed to include any other person with information relevant to any interrogatory who is or was employed by or otherwise associated with the witness or who assisted, in any way, in the preparation of the witness' testimony.
11. "Company", "Duke Energy", or "Duke", means Duke Energy Kentucky, Inc., and/or any of its officers, directors, employees or agents who may have knowledge of the particular matter addressed, and affiliated companies including Duke Energy Corporation.
12. "Joint Intervenors" or "Joint Movants" means the Kentucky Solar Energy Society and Kentuckians for the Commonwealth, who have moved for the status of full intervention as joint intervenors in this matter.
13. Unless otherwise specified in each individual request the term "tariff" means the tariff as filed in this matter by Company.

## INSTRUCTIONS

1. If any matter is evidenced by, referenced to, reflected by, represented by, or recorded in any document, please identify and produce for discovery and inspection each such document.
2. These requests for information are continuing in nature, and information which the responding party later becomes aware of, or has access to, and which is responsive to any request is to be made available to Joint Intervenors. Any studies, documents, or other subject matter not yet completed that will be relied upon during the course of this case should be so identified and provided as soon as they are completed. The Respondent is obliged to change, supplement and correct all answers to interrogatories to conform to available information, including such information as it first becomes available to the Respondent after the answers hereto are served.
3. Unless otherwise expressly provided, each data request should be construed independently and not with reference to any other interrogatory herein for purpose of limitation.
4. The answers provided should first restate the question asked and also identify the person(s) supplying the information.
5. Please answer each designated part of each information request separately. If you do not have complete information with respect to any interrogatory, so state and give as much information as you do have with respect to the matter inquired about and identify each person whom you believe may have additional information with respect thereto.
6. In the case of multiple witnesses, each interrogatory should be considered to apply to each witness who will testify to the information requested. Where copies of testimony, transcripts or depositions are requested, each witness should respond individually to the information request.
7. Wherever the response to a request consists of a statement that the requested information is already available to Joint Intervenors, please provide a detailed citation to the document that contains the information. This citation shall include the title of the document, relevant page number(s),

and, to the extent possible, paragraph number(s) and/or chart/table/figure number(s).

8. If you claim a privilege including, but not limited to, the attorney-client privilege or the work product doctrine, as grounds for not fully and completely responding to any discovery request, please describe the basis for your claim of privilege in sufficient detail so as to permit Joint Intervenors or the Commission to evaluate the validity of the claim. With respect to documents for which a privilege is claimed, please produce a "privilege log" that identifies the author, recipient, date, and subject matter of the documents or interrogatory answers for which you are asserting a claim of privilege and any other information pertinent to the claim that would enable Joint Intervenors or the Commission to evaluate the validity of such claims.
9. Whenever the documents responsive to a discovery request consist of modeling files (including inputs or output) and/or workpapers, the files and workpapers should be provided in machine-readable electronic format (e.g., Microsoft Excel), with all formulas and cell references intact.
10. The interrogatories are to be answered under oath by the witness(es) responsible for the answer.

**TENDERED INITIAL REQUESTS FOR INFORMATION PROPOUNDED TO  
DUKE ENERGY KENTUCKY, INC. BY JOINT MOVANTS FOR JOINT  
INTERVENTION**

Joint Movants for Joint Intervention hereby tender the following initial requests for information to Companies:

- 1.1. Please provide the following information regarding the Company's current NMS customer-generators, for each year from 2018 through 2023. For all requests below that result in a data response, please provide the data in Excel spreadsheet format with formulas intact and cells unlocked.
  - a. For each month and year, how many kWh were supplied back to the Company from all Net Metering Service ("NMS") customers? Provide the aggregate amount for each month and year of total received kWh by rate class.
  - b. For each month and year, how many kWh of energy produced by the Companies were used by all NMS customers? Provide the aggregate amount for each month and year of total delivered kWh by rate class.
  - c. Please explain whether the Company defines "excess generation" on an hourly, daily, or billing period basis, or if none of these, explain how the companies define and measure "excess generation?"
  - d. List the number of residential and commercial customers taking NMS service. List the number by each tariff.
  - e. List the total installed generation capacity (AC and DC) for customers receiving NMS by each specific tariff.
  - f. For each NMS customer, without divulging customer identity of geographic location, please list the capacity (system size in KW) of their Distributed Generation System, the technology type of that system (e.g., PV, wind, hydro, biomass), the date of interconnected operation, and the rate class. List the total amount of kWh delivered to the grid from each NMS customer in each month.
  - g. What was the total combined capacity by rate class of all NMS customers, all residential NMS customers, and all commercial NMS customers for each year?
  - h. What percentage of the Company's single hour peak load for the previous year did the aggregate NMS customer generation represent for each year?
  - i. Please provide any additional data concerning net metering or generation from NMS customers for the years 2018 through 2023 which the

Company has reported to the US Energy Information Administration, FERC, the Kentucky Energy and Environment Cabinet, or any other regulatory agency. This includes but is not limited to data filed on Form EIA-861 for each of those years.

- j. For each NMS customer, please provide the monthly and annual energy consumption data for the year prior to the interconnected operation of the customer generation system. If this data is not available, please explain why not.
  - k. For each new NMS account in the years 2021, 2022, and 2023, provide the name of the installation contractor(s) identified on the customer's net metering application.
- 1.2. Explain how each surcharge will be handled for NMS-II customers? Will those surcharges that are based on kWh usage be treated as they are with NMS-I now (i.e. based on the net kWh in a billing cycle)? With NMS-II, will monthly net excess kWh carry forward to offset future billing cycle surcharges as is done under NMS-I now?
- 1.3. Do you agree that there are two independent elements to a crediting method for "excess energy" fed by customer generators to the grid:
- a. Whether or not the credit for "excess energy" is calculated in kWh or a dollar value; and
  - b. Whether or not excess energy is defined as energy exported to the grid at any moment, or the difference between the amount of energy consumed from the grid over the billing period and the amount of energy exported to the grid over the billing period?
  - c. How does the Company define what is "excess energy?" Specifically, does the Company propose to aggregate over the billing period all energy generated by the NMS-II customer that is fed into the grid and to net that against the energy used by that customer, and then apply the tariffed retail rate to any usage over generation, or the proposed compensatory credit rate to any generation over usage over that billing period? Or does the Company propose to apply the compensatory credit rate to all electricity fed into the grid instantaneously?
- 1.4. Please refer to the Direct Testimony of Bruce L. Sailors on Behalf of Duke Energy Kentucky, Inc. at p. 16, line 8. Is the Company aware of the

Commissions Orders in Case Nos. 2020-00174,<sup>1</sup> in addition to those in 2020-00349 & 2020-00350?<sup>2</sup>

- a. In the present application, please explain how each of the guiding principles developed by the Commission in those cases were addressed and incorporated into the formulation of each the proposed tariffs. See Case No. 2020-00174, May 14, 2021 Order at 21-24; and Case Nos. 2020-00349 and 2020-003509, Sept. 24, 2021 Order at 41-42.
- b. Please explain how the components of the Commission's Avoided Cost Rate Calculations in those cases were considered and calculated in this filing, and the basis and formulae for how each was calculated. Provide all supporting workpapers in native format with formulas intact and cells unlocked for the calculation and formulation of:
  1. avoided energy cost,
  2. avoided generation capacity cost,
  3. avoided transmission capacity cost,
  4. avoided distribution capacity cost,
  5. avoided ancillary services cost,
  6. avoided carbon cost,
  7. avoided environmental compliance cost, and
  8. jobs benefits.
- c. Please explain how the Company considered compliance with future environmental requirements such as EPA's proposed 111(d) rule,<sup>3</sup> Good Neighbor Plan for the 2015 ozone standard,<sup>4</sup> updated National Ambient

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<sup>1</sup> In the Matter of: ELECTRONIC APPLICATION OF KENTUCKY POWER COMPANY FOR (1) A GENERAL ADJUSTMENT OF ITS RATES FOR ELECTRIC SERVICE; (2) APPROVAL OF TARIFFS AND RIDERS; (3) APPROVAL OF ACCOUNTING PRACTICES TO ESTABLISH REGULATORY ASSETS AND LIABILITIES; (4) APPROVAL OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY; AND (5) ALL OTHER REQUIRED APPROVALS AND RELIEF, CASE NO. 2020-00174, Order, May 14, 2014.

<sup>2</sup> 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 and 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 ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT, CASE NO. 2020-00350, Order, Sept. 24, 2021.

<sup>3</sup> US EPA, *New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule*, 88 Fed. Reg. 33,240 (May 23, 2023).

<sup>4</sup> US EPA, *Federal "Good Neighbor Plan" for the 2015 Ozone National Ambient Air Quality Standards*, 88 Fed. Reg. 36,654 (June 5, 2023).



Air Quality Standards for Particulate Matter,<sup>5</sup> and other possible future requirements such as a further reduction in the ozone NAAQS or water effluent limitation guidelines?

- d. On p.5 of his testimony, Mr. Kalemba states, "The Company did not include a Carbon Tax in the development of the LMPs because the IRA is already achieving the same outcomes that a Carbon Tax would promote." Is it Mr. Kalemba's view that the IRA is achieving the maximum possible reduction in carbon emissions in the US energy system and that a carbon tax, in addition to the existing IRA policies, would have no impact on energy pricing, fuel or technology choices?
- 1.5. The National Standard Practice Manual for Benefit-Cost Analysis ("BCA") of Distributed Energy Resources ("DER"), (hereinafter "NSPM-DER") available at <https://www.nationalenergyscreeningproject.org/national-standard-practicemanual/>, provides a comprehensive framework for cost-effectiveness assessment of distributed energy resources including distributed generation, distributed storage, demand response, and energy efficiency. The NSPM-DER also provides guidance on addressing multiple DERs and rate impacts and cost shifts.
    - a. Is the Company aware of and familiar with the NSPM-DER?
    - b. Did the Company review or rely upon the NSPM-DER in developing its proposal for a new net metering tariff? Please explain why or why not, and if so, how the NSPM-DER influenced development of the NMS-2 tariff.
  - 1.6. Explain how customer-generators who are grandfathered under NMS-1 would be served under the following situations after NMS-2 takes effect:
    - a. If the customer-generator decides to increase the capacity of their generator after NMS-2 takes effect, will the compensatory rate for excess generation from the customer-generator be changed, and if so, will that change affect all existing capacity or only that fraction attributable to the expanded capacity?
    - b. If a grandfathered customer-generator taking service under NMS-1 replaces a failed solar module with a newer solar module of the same capacity, would they remain grandfathered under NMS1? If not, why not? What if the new solar module has a larger capacity than the older module being replaced?

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<sup>5</sup> US EPA, *Reconsideration of the National Ambient Air Quality Standards for Particulate Matter*, 88 Fed. Reg. 5,558 (Jan. 27, 2023).

- c. Please identify proposed changes to tariff language intended to reflect the changes described in responses to 1-5.a. and 1-4.b.
  - d. If an NMS-1 customer installs a battery onto their system, would they remain grandfathered under NMS-1? What if the battery installation includes a new inverter capable of integrating with the battery?
  - e. If an NMS-1 customer replaces their inverter with a new inverter with a higher AC capacity rating, but no changes are made to the PV array, would they remain grandfathered under NMS-1?
  - f. Please refer to numerical paragraph 11 of the application and detail what future developments the Company anticipates under FERC Order 2222, or any other FERC orders which may impact NMS customers.
- 1.7. What was the Company's load profile for each of the last two years, expressed in 15-minute intervals?
- a. Provide a breakdown of how the Company's cost of power changes over the course of each day for each month of the year.
  - b. What is the Company's cost of power during peak demand times for each month (including all energy, demand, and transmission charges)?
  - c. Identify what resources the Company uses to meet demand during times of peak demand.
  - d. Identify the Company's costs for power and energy during on peak and off-peak times each month.
  - e. For each month of 2023, please provide the Company's hourly peak demand, date, and time; and the generation mix and capacity contribution of each resource at the peak time.
  - f. Provide the annual generation from all sources (MWh) supplied to serve customer loads, broken down by source.
  - g. Does the Company forecast a need for new capacity within the next 15 years? Does the Company have any plans to file a CPCN with the Kentucky PSC for new generation capacity or transmission infrastructure?
- 1.8. Please provide a comprehensive tabulation of all costs and allocation of costs associated with the following activities, for each of the years 2021-2023:
- a. Trade association dues to and staff time spent on activities conducted by any organization developing or taking any position on net metering rate design, rate design in general, or conducting studies or issuing reports on net metering rate design and rate design in general.

- b. Lobbying and regulatory affairs advocacy and communications relating to net metering rate design, non-utility generation, and related topics; and other utility-related topics.
  - c. Economic development rates and incentives.
  - d. Storm and extreme-weather damage prevention and response.
- 1.9. Please refer to Mr. Sailers's testimony at p. 5, line 9, and explain what is meant by a "kWh bank."
- 1.10. Please refer to Mr. Sailers' testimony at p. 9, lines 13-20.
- a. Please provide the referenced cost-of-service study, along with any supporting workpapers.
  - b. Is this the only cost-of-service analysis performed by the Company related to net-metering customers? Please provide any additional studies or analyses, along with supporting documentation.
- 1.11. Has the Company performed any studies or analysis of the impact distributed energy resources could have or has had on their distribution grid, to reduce or defer infrastructure investments, or to improve system reliability or resilience for customers?
- a. Is the Company aware of any such studies performed by other parties in other regions or utility territories?
  - b. Please provide copies of any such studies or analysis.
- 1.12. Please provide the following information with regard to the current application:
- a. The estimated net revenue increase over the status quo if the application had not been filed or is denied, and
  - b. The estimated costs associated with filing the application, including the cost of any associated studies, staff time, legal fees, and any other direct or indirect costs to implement the amended tariffs if approved.
- 1.13. Please refer to Mr. Sailers' testimony at pp. 5-7.
- a. Please provide any materials from the referenced forums, including any presentations, documents, or recordings.
  - b. Were the forums by invite only, or open to the public? If they were open to the public how did the Company notify the public?

- c. How did the Company consider input from stakeholders from these forums? Were any changes made to this application as a result of the input received?
  - d. Did the Company conduct any other public or stakeholder outreach associated with this specific application, or updates to net metering conducted by the Company?
- 1.14. Mr. Sailers states in his testimony that one theme of the stakeholder engagement was: "Some stakeholders prefer monthly kWh netting since it smooths out variations in net metering benefits among customers with different load profiles."<sup>6</sup>
- a. Please describe how the proposed netting differs from this stakeholder preference and why a different approach was taken
  - b. Please describe how the proposed tariff will affect variability in net metering benefits among customers with different load profiles.
  - c. Please describe how the proposed tariff will affect customers' and installer's ability to estimate return on investment for a solar installation.
- 1.15. When the Company was conducting outreach to stakeholders prior to filing this application, did any stakeholders recommend that proposals for an NMS-2 tariff would be an unnecessary waste of time and resources for the Company, stakeholders, and the Commission, considering how close the Company is to the 1% threshold and the Company's stated intent to develop a new solar program to replace net metering after reaching the 1% threshold? In light of these facts, why did the Company choose to file the NMS-2 tariff application?
- 1.16. Mr. Sailers states "[r]ecognizing transmission planning principles associated with intermittent, non-dispatchable rooftop solar exports, the Company does not include a value for avoided transmission capacity".<sup>7</sup>
- a. Please explain the planning principles Mr. Sailers is referring to.

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<sup>6</sup> Direct Testimony of Bruce L. Sailers on Behalf of Duke Energy Kentucky, Inc. at 6, lines 17-19.

<sup>7</sup> *Id.* at 19, lines 18-20.

- b. If, as Mr. Sailers states, “Customer-generators do ... receive transmission cost reduction ... through self-consumption,”<sup>8</sup> please explain how the Company does not also receive such a benefit when excess energy from customer-generators is satisfied to meet the demand of other nearby ratepayers?
- 1.17. Mr Sailers states “[r]ecognizing distribution planning principles associated with intermittent, non- dispatchable rooftop solar exports, the Company does not add a value for avoided distribution capacity.”<sup>9</sup>
- a. Please explain the planning principles Mr. Sailers is referring to.
- b. If, as Mr. Sailers states, “Customer-generators do ... receive distribution cost reduction ... through self-consumption,”<sup>10</sup> please explain how the Company does not also receive such a benefit when excess energy from customer-generators is satisfied to meet the demand of other nearby ratepayers?
- 1.18. Please refer to Mr. Sailers’ testimony at p. 21, lines 14-20, and referring to the Order referenced there in Case Nos. 2020-00349 and 2020-00350, what efforts has the company made to evaluate job creation benefits and economic development, as the Commission ordered the companies in that case?
- 1.19. Mr. Sailers states that the company intends to “propose a sustainable, expandable solar program for customer-generators” in the future.<sup>11</sup>
- a. What are the key elements of a sustainable, expandable solar program?
- b. Does the company intend to propose this program when 1% penetration is reached or before?
- c. Please confirm whether service will continue to be offered under currently-effective tariffs, or any tariffs approved pursuant to this application, until any future changes are approved, or whether the

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<sup>8</sup> *Id.* at 19-20, lines 22-3.

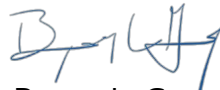
<sup>9</sup> *Id.* at 20-21, lines 16-18.

<sup>10</sup> *Id.* at 19-20, lines 20-2.

<sup>11</sup> *Id.* at 23-24, lines 21-3.

- Company intends to close availability to NMS-II once the 1% penetration is reached.
- d. Are the present proposals consistent with such a program? Explain how or how not.
  - e. Why is a change in net metering being proposed at this time, given that the company may soon be proposing a new program?
- 1.20. Does the Company agree or disagree that NMS-2 rates are not required by statute, and the Company can continue offering rates under its current net metering tariff indefinitely, if it so chooses?
- 1.21. Please provide all worksheets used to support Mr. Sailer's and Mr. Kalemba's testimonies, with all formulas intact and cells unlocked.

Respectfully Submitted,

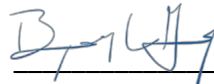


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Joint Intervention Kentucky Solar  
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## CERTIFICATE OF SERVICE

In accordance with the Commission's July 22, 2021 Order in Case No. 2020-00085, *Electronic Emergency Docket Related to the Novel Coronavirus COVID-19*, this is to certify that the electronic filing was submitted to the Commission on January 19, 2024; that the documents in this electronic filing are a true representation of the materials prepared for the filing; and that the Commission has not excused any party from electronic filing procedures for this case at this time.



Byron L. Gary