

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Electronic Application of Duke Energy)	
Kentucky, Inc. for a Certificate of Public)	
Convenience and Necessity to Convert its Wet Flue)	Case No. 2024-00152
Gas Desulfurization System from a Quicklime)	
Reagent Process to a Limestone Reagent Handling)	
System at its East Bend Generating Station and for)	
Approval to Amend its Environmental Compliance)	
Plan for Recovery by Environmental Surcharge)	
Mechanism)	

**DUKE ENERGY KENTUCKY, INC.’S FIRST REQUEST FOR INFORMATION
PROPOUNDED UPON THE SIERRA CLUB**

Comes now Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company), and addresses the following First Request for Information to the Sierra Club. to be answered by the date specified in the Commission’s Order of Procedure, and in accordance with the following instructions:

I. DEFINITIONS AND INSTRUCTIONS

1. With respect to each discovery request, all information is to be divulged that is within the knowledge, possession, or control of the parties to whom it is addressed, including their agents, employees, attorneys, and/or investigators.

2. Please identify the witness(es) who will be prepared to answer questions concerning each request.

3. These requests shall be deemed continuing so as to require further and supplemental responses if the Company receives or generates additional information within the scope of these requests between the time of the response and the time of any hearing

conducted hereon.

4. All answers must be separately and fully stated in writing under oath.

5. Where a request calls for an answer in more than one part, each part should be separated in the answer so that the answer is clearly understandable.

6. For purpose of these discovery requests, the following terms shall have meanings set forth below:

(a) As used herein, “document,” “documentation” and/or “record,” whether stated as the singular or the plural, means any course of binders, book, pamphlet, periodical, letter, correspondence, memoranda, including but not limited to, any memorandum or report of a meeting or telephone or other conversation, invoice, account, credit memo, debit memo, financial statement, general ledger, ledger, journal, work papers, account work papers, report, diary, telegram, record, contract, agreement, study, draft, telex, handwritten or other note, sketch, picture, photograph, plan, chart, paper, graph, index, tape, data processing card, data processing disc, data cells or sheet, check acceptance draft, e-mail, studies, analyses, contracts, estimates, summaries, statistical statements, analytical records, reports and/or summaries of investigations, opinions or reports of consultants, opinions or reports of accountants, trade letters, comparisons, brochures, pamphlets, circulars, bulletins, notices, forecasts, electronic communication, printouts, all other data compilations from which information can be obtained (translated if necessary by

defendants into usable form), any preliminary versions, drafts or revisions of any of the foregoing, and/or any other written, recorded, transcribed, punched, taped, filmed or graphic matter, however produced or reproduced and regardless of origin or location, in the possession, custody and/or control of the defendant and/or their agents, accountants, employees, representatives and/or attorneys. “Document” and “record” also mean all copies of documents by whatever means made, if the copy bears any other markings or notations not found on the original.

- (b) The terms “relating to,” “referring to,” “referred to,” “pertaining to,” “pertained to” and “relates to” means referring to, reporting, embodying, establishing, evidencing, comprising, connected with, commenting on, responding to, showing, describing, analyzing, reflecting, presenting and/or constituting and/or in any way involving.
- (c) The terms “and,” “or,” and “and/or” within the meaning of this document shall include each other and shall be both inclusive and disjunctive and shall be construed to require production of all documents, as above described, in the broadest possible fashion and manner.
- (d) The term “Sierra Club” shall mean the Sierra Club, and shall include, but is not limited to, each and every agent, employee, servant, insurer and/or attorney of Sierra Club. The term “you” shall be deemed to refer to Sierra Club.

- (e) The term “Commission” shall mean the Kentucky Public Service Commission.
- (f) The terms “Duke Energy Kentucky” or the “Company” shall mean Duke Energy Kentucky, Inc., its employees, agents, officers, directors, and representatives.
- (g) To “identify” shall mean:
 - (1) With respect to a document, to state its date, its author, its type (for example, letter, memorandum, chart, photograph, sound reproduction, etc.), its subject matter, its present location, and the name of its present custodian. The document may be produced in lieu of supplying the foregoing information. For each document which contains information as privileged or otherwise excludable from discovery, there shall be included a statement as to the basis for such claim of privilege or other grounds for exclusion.
 - (2) With regard to a natural person, to state his or her full name, last known employer or business affiliation, title, and last known home address.
 - (3) With regard to a person other than a natural person, state the title of that person, any trade name, or corporate name or partnership name used by that person, and the principal business address of that person.
- (h) To “produce” or to “identify and produce,” shall mean that the Sierra

Club shall produce each document or other requested tangible thing. For each tangible thing which Sierra Club contends is privileged or otherwise excludable from discovery, there shall be included a statement as to the basis for such claim of privilege or other grounds for exclusion.

(i) The terms “Party or Parties” shall mean any organization, person, corporation, entity, etc., which intervened in the above-captioned proceeding and shall further include the Kentucky Public Service Commission Staff.

(j) The terms “Agreement or Agreements” shall mean written or oral terms agreed upon by the participants and include, but are not limited to, protective agreements, confidentiality agreements, joint defense agreements, agreements to support or oppose any item or position, and any other commitments made among the Sierra Club and any Intervening Party.

II. REQUESTS FOR INFORMATION

1. Other than Ms. Chelsea Hotaling and Ranajit Sahu, please identify any persons, including experts, whom Sierra Club has consulted or retained with regard to evaluating Duke Energy Kentucky’s Application in this proceeding.

2. For each person identified in response to Interrogatory No. 1 above, please state:

- a. the subject matter of the discussions/consultations/evaluations.
- b. the written opinions of such persons regarding Duke Energy Kentucky’s Application.
- c. the facts to which each person relied upon; and

d. a summary of the person's qualifications to render such discussions/consultations/evaluations.

3. For each person identified in response to Interrogatory No. 1 above, please identify all proceedings in all jurisdictions in which the witness/person has offered evidence, including but not limited to, pre-filed testimony, sworn statements, and live testimony or analysis. For each response, please provide the following:

- a. the jurisdiction in which the testimony, statement, or analysis was pre-filed, offered, given, or admitted into the record.
- b. the administrative agency and/or court in which the testimony, statement, or analysis was pre-filed, offered, admitted, or given.
- c. the date(s) the testimony, statement, or analysis was pre-filed, offered, admitted, or given.
- d. the identifying number for the case or proceeding in which the testimony, statement, or analysis was pre-filed, offered, admitted, or given; and
- e. whether the person was cross-examined.

4. Identify and provide all documents or other evidence that Sierra Club may seek to introduce as exhibits or for purposes of witness examination in the above-captioned matter.

5. Please identify all proceedings in all jurisdictions in the last three years in which Ms. Chelsea Hotaling has offered evidence, including but not limited to, pre-filed testimony, sworn statements, and live testimony or analysis. For each response, please provide the following:

- a. the jurisdiction in which the testimony, statement, or analysis was prefiled, offered, given, or admitted into the record.
- b. the administrative agency and/or court in which the testimony, statement, or analysis was pre-filed, offered, admitted, or given.
- c. the date(s) the testimony, statement, or analysis was pre-filed, offered, admitted, or given.
- d. the identifying number for the case or proceeding in which the testimony, statement, or analysis was pre-filed, offered, admitted, or given.
- e. whether the witness was cross-examined.
- f. the custodian of the transcripts and pre-filed testimony, statements, or analysis for each proceeding; and
- g. copies of all such testimony, statements, or analysis.

6. Please provide copies of any and all documents, analysis, summaries, white papers, work papers, spreadsheets (electronic versions with cells intact), including drafts thereof, as well as any underlying supporting materials created by Ms. Hotaling as part of her evaluation of Duke Energy Kentucky's Application or used in the creation of Ms. Hotaling's testimony.

7. Please provide copies of any and all documents not created by Ms. Hotaling, including but not limited to, analysis, articles, books, summaries, cases, reports, and evaluations, that Ms. Hotaling relied upon, referred to, or used in the development of her testimony.

8. Please provide any and all studies, analysis, and presentations that Ms. Hotaling has created or publicly made within the last three years that involve any of the following: utility regulation, ratemaking, depreciation, fossil-fueled electric generation retirements, environmental compliance for coal-fired generating units, or lime-based reagent processes, conversion of coal units to natural gas, and impacts of the updated Clean Air Act Section 111 rules.

9. Please provide all work papers, models, spreadsheets with cells and formulas intact, and supporting calculations used to develop Table 2 on page 6 in Ms. Hotaling's Testimony.

10. Refer to Ms. Hotaling's Testimony page 7, Lines 14 through 16, where she states there was not a modeling run that looked at optimizing around an economic retirement date for East bend like there was in the 2021, IRP. Please answer the following:

- a. Is Ms. Hotaling aware of KRS 278.264 and the requirement for a utility to obtain Commission approval prior to retiring a fossil generating unit?
- b. If the response is in the affirmative, has Ms. Hotaling performed any analysis to determine whether an economic retirement of East Bend would meet the retirement threshold of KRS 278.264? If yes, please provide such analysis.

11. Referring generally to Ms. Hotaling's testimony, please provide all analysis, including memorandum, summaries, and work papers, that Ms. Hotaling has created, reviewed, or performed regarding Duke Energy Kentucky's 2024 IRP filed in Case No. 2024-00197.

12. Please identify all proceedings in all jurisdictions in the last three years in which Dr. Sahu has offered evidence, including but not limited to, pre-filed testimony, sworn statements, and live testimony or analysis. For each response, please provide the following:

- a. the jurisdiction in which the testimony, statement, or analysis was prefiled, offered, given, or admitted into the record.
- b. the administrative agency and/or court in which the testimony, statement, or analysis was pre-filed, offered, admitted, or given.
- c. the date(s) the testimony, statement, or analysis was pre-filed, offered, admitted, or given.
- d. the identifying number for the case or proceeding in which the testimony, statement, or analysis was pre-filed, offered, admitted, or given.
- e. whether the witness was cross-examined.
- f. the custodian of the transcripts and pre-filed testimony, statements, or analysis for each proceeding; and
- g. copies of all such testimony, statements, or analysis.

13. Please provide copies of any and all documents, analysis, summaries, white papers, work papers, spreadsheets (electronic versions with cells intact), including drafts thereof, as well as any underlying supporting materials created by Dr. Sahu as part of his evaluation of Duke Energy Kentucky's Application or used in the creation of Dr. Sahu's testimony.

14. Please provide copies of any and all documents not created by Dr. Sahu including but not limited to, analysis, articles, books, summaries, cases, reports, and evaluations, that Dr. Sahu relied upon, referred to, or used in the development of his testimony.

15. Please provide any and all studies, analysis, and presentations that Dr. Sahu has created or publicly made within the last three years that involve any of the following: utility regulation, ratemaking, depreciation, fossil-fueled electric generation retirements, environmental compliance for coal-fired generating units, or lime-based reagent processes, conversion of coal units to natural gas, and impacts of the updated Clean Air Act Section 111 rules.

16. Is Dr. Sahu aware of any coal-fired generating units located in the United States, other than East Bend, that currently use a magnesium enhanced lime (MEL) as a reagent? If yes, please identify the station, the operator, and whether it is a regulated utility.

17. To the extent the response to the previous data request was in the affirmative, is Dr. Sahu aware of the supplier of the magnesium enhanced lime product used by that generating unit? If yes, please identify the supplier.

18. Referencing Dr. Sahu's testimony on page 5 where he states he has performed projects in all 50 states, please identify all such projects located in the Commonwealth of Kentucky, by location, type of project, and on whose behalf the project was performed.

19. Prior to this case, has Dr. Sahu ever prepared, consulted, or performed any engineering analysis on a project to convert a magnesium enhanced lime reagent handling

process to a limestone-based handling process? If the response is in the affirmative, please provide the following information:

- a. The date of the project.
- b. A description of the project.
- c. The location of the project.
- d. On whose behalf the project was performed.
- e. Whether the project to convert to a limestone-based reagent handling system was completed, and when.

20. Referring to Dr. Sahu's testimony on page 8, line 22 through 24, does Dr. Sahu dispute Duke Energy Kentucky's statement that without quicklime reagent, it cannot operate East Bend in compliance with its Clean Air Act permits and would need to take the plant offline?

21. Refer to Dr. Sahu's testimony, page 9, has Dr. Sahu performed any analysis to support his statement that a four- or five-year contract could have allowed Duke Energy Kentucky to convert East Bend to operate on gas or construct and permit a new combined cycle plant? If the response is in the affirmative, please provide such analysis.

22. Is it Dr. Sahu's opinion that East Bend should be retired as a coal unit by 2030? If the response is in the affirmative, please provide all data and analysis that supports such a retirement.

23. Is Dr Sahu aware of KRS 278.264 and the requirement for a utility to obtain Commission approval prior to retiring a fossil generating unit.

- a. If the response is in the affirmative, does Dr. Sahu agree that converting East Bend to run fully on natural gas would require retirement of coal

facilities and the Company would be required to obtain retirement approval from the Kentucky Public Service Commission in accordance with KRS 278.264? If not, please explain why.

24. Is Dr. Sahu aware of KRS 164.2807 which requires a utility to submit notice of a proposed retirement of fossil generation to the Energy Planning Inventory Commission at least 180 days prior to submitting an application to the PSC to retire the plant or unit?

25. Refer to Dr. Sahu's testimony, page 9, Line 12 through 15.

a. Does Dr. Sahu believe that Duke Energy Kentucky did not attempt to enter into a longer-term lime supply contract as part of its negotiations with the current supplier?

b. Did Dr. Sahu review the Direct Testimony of Duke Energy Kentucky Witness John A. Verderame prior to drafting Dr. Sahu's testimony?

26. Please state whether Dr. Sahu has ever conducted requests for proposals for fuel or reagents for electric generating facilities?

a. If the response is in the affirmative, please identify when, what generating units.

b. Does Dr. Sahu believe that the Company should enter into contracts with minimum volumes for reagents and fuel?

c. Does Dr. Sahu know whether East Bend has any storage on site for reagents if it has a contract with minimum delivery requirements?

27. Refer to Dr. Sahu's testimony on page 12, lines 2-4, please explain what other possible alternatives could have their feasibility impacted by a new, long-term quicklime offer."

28. Refer to Dr. Sahu's testimony on page 12, Lines 19 through page 13 lines

3. Please answer the following questions:

- a. Does Dr. Sahu believe a carbon capture sequestration system could be installed at East Bend by 2030? If yes, please provide all analysis and data supporting this conclusion.
- b. Has Dr. Sahu evaluated the geology at the East Bend station to determine whether carbon capture and sequestration is feasible at the East Bend site? If yes, please provide all analysis and data supporting this conclusion.
- c. Has Dr. Sahu evaluated whether a carbon dioxide pipeline could be constructed at the East Bend site to transport the emissions to a sequestration site by 2030? If yes, please provide all analysis and data supporting this conclusion.

Respectfully submitted,

/s/Rocco D'Ascenzo

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CERTIFICATE OF SERVICE

This is to certify that the foregoing electronic filing is a true and accurate copy of the document in paper medium; that the electronic filing was transmitted to the Commission on October 30th, 2024; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that submitting the original filing to the Commission in paper medium is no longer required as it has been granted a permanent deviation.¹

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/s/Rocco D'Ascenzo
Counsel for Duke Energy Kentucky, Inc.

¹*In the Matter of Electronic Emergency Docket Related to the Novel Coronavirus COVID-19*, Order, Case No. 2020-00085 (Ky. P.S.C. July 22, 2021).