COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF: ELECTRONIC 2024 JOINT INTEGRATED RESOURCE PLAN OF LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES COMPANY	: : : : : :	CASE NO. 2024-00326

FIRST SET OF DATA REQUESTS OF KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC. TO KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS & ELECTRIC COMPANY

Michael L. Kurtz, Esq.
Jody Kyler Cohn, Esq.
BOEHM, KURTZ & LOWRY
36 E. Seventh Street, Suite 1510
Cincinnati, Ohio 45202
Ph: (513) 421-2255, Fax: (513) 421-2765
E-Mail: mkurtz@BKLlawfirm.com
jkylercohn@BKLlawfirm.com

COUNSEL FOR KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

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DEFINITIONS

1. "Document" means the original and all copies (regardless of origin and whether or not including additional writing thereon or attached thereto) of memoranda, reports, books, manuals, instructions, directives, records, forms, notes, letters, notices, confirmations, telegrams, pamphlets, notations of any sort concerning conversations, telephone calls, meetings or other communications, bulletins, transcripts, diaries, analyses, summaries, correspondence investigations, questionnaires, surveys, worksheets, and all drafts, preliminary versions, alterations, modifications, revisions, changes, amendments and written comments concerning the foregoing, in whatever form, stored or contained in or on whatever medium, including computerized memory or magnetic 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 residence address, his or her present 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.), number of code number thereof or other means of identifying it, 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.

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 interrogatories 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 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. "LG&E/KU" or "Company" means Louisville Gas & Electric Company and Kentucky Utilities Company and/or any of their officers, directors, employees or agents who may have knowledge of the particular matter addressed, and affiliates including PPL Corporation.

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 interrogatories 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 Kentucky Industrial Utility Customers. 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 interrogatory 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. The interrogatories are to be answered under oath by the witness(es) responsible for the answer.
8. Responses to requests for revenue, expense and rate base data should provide data on the basis of Total Company as well as Intrastate data, unless otherwise requested.

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Q.1. Refer to Volume I, page 7-13 and the statement, "*Data centers specifically require significant amounts of electric power, low to moderate risk of adverse weather events and natural disasters, availability of telecommunications infrastructure, water for equipment cooling, and favorable tax incentives. Kentucky is well positioned with respect to most, if not all, of these requirements.*"

a. Provide any reports or documents that analyze the economic benefits of locating data centers in Kentucky compared to the costs of serving that load.

b. Please describe the "favorable tax incentives" available in Kentucky for data centers.

Q.2. Refer to Volume I, page 7-13 and the statement, "*The Companies' Economic Development team is working with a growing number of data center projects that vary in stages of development, but which mostly have very large power requirements*."

a. Please provide a narrative explanation of the discussions that the Companies have had with potential new data centers.

b. Please provide a listing of the individual data center projects under the mid load forecast case (1,050 MW by 2032). This listing should include for each data center estimated peak demand, estimated energy requirements, load factor, date of inquiry, location, and timing of load additions including load ramping up to full usage.

c. For each data center listed in 2.b. above, please indicate if the potential customer will require redundant transmission feeds for added reliability. Will data centers that require redundant transmission be required to sign long term contracts to pay for the enhanced transmission? Please explain.

d. Please provide a listing of the individual data center projects under the high load forecast case (1,750 MW by 2032). This listing should include for each data center estimated peak demand, estimated energy requirements, load factor, date of inquiry, location, and timing of load additions including load ramping up to full usage.

e. For each data center listed in 2.d. above, please indicate if the potential customer will require redundant transmission feeds for added reliability. Will data centers that require redundant transmission be required to sign long term contracts to pay for the enhanced transmission? Please explain.

f. Please describe how the Companies translated the pipeline of potential new data center projects to the load that was included in the mid and high load forecasts. In other words, what methodologies were used and what assumptions were made for load materialization expectations?

g. Provide all data center load materialization modeling and analysis in excel spreadsheet format with formulas intact deriving the data center load forecast adjustments used in the mid and high load case sensitivities.

h. Under the mid load forecast (1,050 MW by 2032), how many full-time data center jobs are expected to be created? What are the types of jobs (security, maintenance, etc.)? For each job, what are the expected annual wages and total compensation?

i. Under the high load forecast (1,750 MW by 2032), how many full-time data center jobs are expected to be created? What are the types of jobs (security, maintenance, etc.)? For each job, what are the expected annual wages and total compensation?

j. What protections are included in the tariffs that data center customers would take service under to ensure that the data centers will actually locate in Kentucky if new generation and transmission is built to serve them? Would the data centers be required by contract to commit to a minimum term and/or minimum demand charges? Please explain.

k. Have the Companies considered proposing new data center specific tariffs in order to ensure that those customers will make minimum payments for minimum terms to support any new generation and transmission that is built to serve them? Please explain.

l. If the Companies build new generation to serve the expected data center load and that load does not materialize, how will the cost of unneeded generation be mitigated? If excess energy is sold off-system would the Companies expect to retain part of the margins? Would unneeded generation make joining PJM or MISO more economic since the unneeded generation could be sold into those capacity markets?

m. If the Companies build a new 660 MW natural gas combined cycle (NGCC) unit to serve the expected data center load and that load does not materialize, using the base case forecast of coal and gas prices in the IRP, how much coal generation will be displaced by the NGCC generation? Would this circumstance affect the Companies coal procurement strategy?

n. If the Companies build a new 660 MW natural gas combined cycle (NGCC) unit to serve the expected data center load and that load does not materialize, would this circumstance make it harder to economically justify environmental upgrades at the Companies' coal plants?

o. Please provide all marginal cost studies which demonstrate that the marginal revenue from serving the projected data center load will exceed the marginal cost of building new generation and transmission to serve them.

p. Are the Companies offering any economic development discount rates to attract the new data center load? If yes, please explain.

q. Provide all studies performed by Companies in evaluating whether projected data center load will increase or decrease average rates for existing customers.

r. Have the Companies evaluated the incremental impact of additional data center load on average or marginal energy costs? If yes, please provide those studies.

Q.3. Refer to Volume I, page 5-25 and the statement, "*The Companies developed least-cost resource plans subject to reserve margin and other constraints for each load and environmental scenario (12 scenarios in total comprising three load scenarios and four environmental scenarios). To do this, the Companies first used PLEXOS to develop resource plans for each of the 12 load and environmental scenario across each of the five fuel price scenarios, resulting in 60 total resource plans. The Companies then evaluated each resource plan with detailed production costs over each of the fuel price scenarios to determine which resource plan for a given load and environmental scenario is lowest cost across all fuel price scenarios*."

a. Identify where the company presents a summary of the cost and NPVRR results for each of the 60 plans in the IRP filing.

b. Provide an index describing the purpose, capacity expansion plan assumptions, fuel scenario, and run naming convention used in the PLEXOS and PROSYM modeling inputs and outputs.

c. For each of the 60 total resource plan runs, provide a breakdown of the "syscost" output by year split by reporting cost category (fixed, variable, fuel, emissions, start, etc.) Provide in Excel format.

d. Provide run output for each of the 60 cases with unit specific resource data (firm capacity and installed capacity) and load for deriving reserve margin by year.

e. Provide run output for each of the 60 cases with unit specific dispatch data by month and by year (generation, fuel costs, emissions costs and rates, etc.) Provide in Excel format.

f. Provide run output for each of the 60 cases describing the hourly marginal price data for the system. Provide in Excel format.

Q.4. For the revenue requirement model provided in the resource planning workpaper "Resource_Planning\Screening\20240901_RevenueRequirementProfiles_2024IRP_0328.xlsx."

a. Explain if the Company has evaluated the near-term resource plan costs on an annual basis assuming levelized economic carrying charge representation or declining revenue requirements representation.

b. What are the nominal costs associated with each of the 60 runs assuming a declining revenue requirement representation for fixed costs. Provide all workpapers and calculations electronically in spreadsheet format used to develop the final annual values.

Q.5. Refer to confidential workpaper, "Resource_Planning\Tables\CONFIDENTIAL_20241001_Section8Tables_2024IRP.xlsx" tab: "9-1AnnualRevReq", row 14.

a. Provide all supporting workpapers and calculations deriving the non-variable revenue requirements pasted in row 14.

b. Has the Company prepared the same analysis for the 60 runs referenced in Volume I at page 5-25? If so, provide and or identify the workpapers and supporting computation location for each run. If not, explain why not.

Q.6. Refer to confidential workpaper "Resource_Planning\FinancialModel\ CONFIDENTIAL_20241001_FinancialModel_01_NoRegs_0328.xlsx" tab: "Pivot Results"

a. Provide an index mapping cases E01, E02, E03, E04, E05 to the build plans identified in the IRP.

b. Confirm that the incremental cost between the ML and HL load sensitivities on a NPVRR basis is approximately [redacted] (cell H35 less Cell H23, based on plan E02). If not, explain what cost premium is associated with the additional load modeled.

c. Reconcile each of the 75 sensitivity cases provided across the 3 pivot tables provided in this tab (5 plans x 5 fuel sensitivities x 3 load forecasts) to the 60 cases referenced at Volume I, page 5-25.

Q.7. Refer to confidential workpaper "Resource_Planning\FinancialModel\ CONFIDENTIAL_20241001_FinancialModel_02_GNP_0328.xlsx" tab: "Pivot Results"

a. Provide an index mapping cases E01, E02, E03, E04, E05 to the build plans identified in the IRP.

b. Explain what "GNP" represents in the naming convention of this file.

c. Reconcile each of the 75 sensitivity cases provided across the 3 pivot tables provided in this tab (5 plans x 5 fuel sensitivities x 3 load forecasts) to the 60 cases referenced at Volume I, page 5-25.

Q.8. Refer to confidential workpaper "Resource_Planning\FinancialModel\ CONFIDENTIAL_20241001_FinancialModel_03_ELG_0328.xlsx" tab: "Pivot Results"

a. Provide an index mapping cases E01, E02, E03, E04, E05 to the build plans identified in the IRP.

b. Reconcile each of the 75 sensitivity cases provided across the 3 pivot tables provided in this tab (5 plans x 5 fuel sensitivities x 3 load forecasts) to the 60 cases referenced at Volume I, page 5-25.

Q.9. Refer to confidential workpaper "Resource_Planning\FinancialModel\ CONFIDENTIAL_20241001_FinancialModel_04_111_0328.xlsx" tab: "Pivot Results"

a. Provide an index mapping cases E01, E02, E03, E04, E05 cases to the build plans identified in the IRP.

b. Reconcile each of the 75 sensitivity cases provided across the 3 pivot tables provided in this tab (5 plans x 5 fuel sensitivities x 3 load forecasts) to the 60 cases referenced at Volume I, page 5-25.

Q.10. Refer to confidential workpaper "Resource_Planning\FinancialModel\ CONFIDENTIAL_20241001_FinancialModel_05_RefCase_0328.xlsx"

a. Explain why this file does not include a "Pivot Results" summary as provided with the other Financial Models in this directory.

b. Provide a copy of the documentation, instructions, and/or manuals produced to describing the financial model excel spreadsheet that describes how to run models, create inputs and or outputs, or describes the logic included in the formulas and lookups contained in this file.

/s/ Michael L. Kurtz

Michael L. Kurtz, Esq.
Jody Kyler Cohn, Esq.
BOEHM, KURTZ & LOWRY
36 E. Seventh Street, Suite 1510
Cincinnati, Ohio 45202
Ph: (513) 421-2255, Fax: (513) 421-2765
E-Mail: mkurtz@BKLlawfirm.com
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