

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

**JOINT INTEGRATED RESOURCE PLAN OF) CASE NO. 2014-00131
LOUISVILLE GAS AND ELECTRIC COMPANY)
AND KENTUCKY UTILITIES COMPANY)**

**WALLACE MCMULLEN AND SIERRA CLUB’S INITIAL DATA REQUESTS TO
LOUISVILLE GAS AND ELECTRIC COMPANY
AND KENTUCKY UTILITIES COMPANY**

Pursuant to the Kentucky Public Service Commission’s (“Commission”) October 1, 2014 Order (“October Order”), Intervenor Wallace McMullen and Sierra Club (collectively “Environmental Intervenor”) propound the following requests for information on Louisville Gas and Electric Company and Kentucky Utilities Company (collectively, the “Companies”) in the above captioned proceeding.

The Companies shall answer these requests for information in the manner set forth in the October Order and by no later than the November 21, 2014 deadline set forth in the Appendix to the October Order. Please produce the requested documents in electronic format to:

Susan Laureign Williams
Sierra Club
50 F Street, NW, Eighth Floor
Washington, DC 20001
laurie.williams@sierraclub.org

Shannon Fisk
Earthjustice
1617 John F. Kennedy Blvd., Suite 1675
Philadelphia, PA 19103
sfisk@earthjustice.org

Matthew Gerhart
Earthjustice
705 Second Avenue, Suite 203
Seattle, WA 98104
mgerhart@earthjustice.org

Wherever the response to an interrogatory or request consists of a statement that the requested information is already available to the Environmental Intervenors, 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).

In the event that any document referred to in response to any request for information has been destroyed, specify the date and the manner of such destruction, the reason for such destruction, the person authorizing the destruction and the custodian of the document at the time of its destruction.

The Environmental Intervenors reserve the right to serve supplemental, revised, or additional discovery requests as permitted in this proceeding.

DEFINITIONS

Unless otherwise specified in each individual interrogatory or request, “you,” “your,” the “Companies,” or “LG&E/KU,” refers to Louisville Gas and Electric Company and Kentucky Utilities Company, and its affiliates, employees, and authorized agents.

“And” and “or” shall be construed either conjunctively or disjunctively as required by the context to bring within the scope of these interrogatories and requests for production of documents any information which might be deemed outside their scope by another construction.

“Any” means all or each and every example of the requested information.

“CO₂” means carbon dioxide

“Communication” means any transmission or exchange of information between two or more persons, whether orally or in writing, and includes, without limitation, any conversation or discussion by means of letter, telephone, note, memorandum, telegraph, telex, telecopy, cable, email, or any other electronic or other medium.

“Document” refers to written matter of any kind, regardless of its form, and to information recorded on any storage medium, whether in electrical, optical or electromagnetic form, and capable of reduction to writing by the use of computer hardware and software, and includes all copies, drafts, proofs, both originals and copies either (1) in the possession, custody or control of the Companies regardless of where located, or (2) produced or generated by, known to or seen by the Companies, but now in their possession, custody or control, regardless of where located whether or still in existence.

Such “documents” shall include, but are not limited to, applications, permits, monitoring reports, computer printouts, contracts, leases, agreements, papers, photographs, tape recordings, transcripts, letters or other forms of correspondence, folders or similar containers, programs, telex, TWX and other teletype communications, memoranda, reports, studies, summaries, minutes, minute books, circulars, notes (whether typewritten, handwritten or otherwise), agenda,

bulletins, notices, announcements, instructions, charts, tables, manuals, brochures, magazines, pamphlets, lists, logs, telegrams, drawings, sketches, plans, specifications, diagrams, drafts, books and records, formal records, notebooks, diaries, registers, analyses, projections, email correspondence or communications and other data compilations from which information can be obtained (including matter used in data processing) or translated, and any other printed, written, recorded, stenographic, computer-generated, computer-stored, or electronically stored matter, however and by whomever produced, prepared, reproduced, disseminated or made.

Without limitation, the term “control” as used in the preceding paragraphs means that a document is deemed to be in your control if you have the right to secure the document or a copy thereof from another person or public or private entity having actual possession thereof. If a document is responsive to a request, but is not in your possession or custody, identify the person with possession or custody. If any document was in your possession or subject to your control, and is no longer, state what disposition was made of it, by whom, the date on which such disposition was made, and why such disposition was made.

For purposes of the production of “documents,” the term shall include copies of all documents being produced, to the extent the copies are not identical to the original, thus requiring the production of copies that contain any markings, additions or deletions that make them different in any way from the original

“DSM” means demand-side management programs including demand-response, interruptible load, and energy efficiency programs.

“EPA” means the United States Environmental Protection Agency

“Identify” means:

- (a) With respect to a person, to state the person’s name, address and business relationship (e.g., “employee”) to Big Rivers;
- (b) With respect to a document, to state the nature of the document in sufficient detail for identification in a request for production, its date, its author, and to identify its custodian. If the information or document identified is recorded in electrical, optical or electromagnetic form, identification includes a description of the computer hardware or software required to reduce it to readable form.

“NOx” means nitrogen oxides

“NPV” means Net Present Value

“Relating to” or “concerning” means and includes pertaining to, referring to, or having as a subject matter, directly or indirectly, expressly or implied, the subject matter of the specific request.

“RFP” means Request for Proposal

“SO₂” means sulfur dioxide

“Workpapers” are defined as original, electronic, machine-readable, unlocked, Excel format (where possible) with formulas intact.

PRIVILEGE

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 interrogatory or request for production, describe the basis for your claim of privilege in sufficient detail so as to permit the Environmental Intervenors or the Commission to evaluate the validity of the claim. With respect to documents for which a privilege is claimed, 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 the Environmental Intervenors or the Commission to evaluate the validity of such claims.

TIME

Unless otherwise provided, the applicable time period for each of these requests for information is January 1, 2010 to the present.

DATA REQUESTS

- 1.1. Please provide all LG&E/KU responses to data requests from all other parties in this proceeding.
- 1.2. Please provide any redacted documents included in this filing in non-redacted, electronic versions (machine readable, unprotected, with formulas intact), if they have not already been provided to the Environmental Intervenors.
- 1.3. Produce any workpapers (in machine readable and unprotected format, with formulas intact) used to produce the load forecast, reserve margin study, and/or resource assessment.
- 1.4. Produce the input and output files (in machine readable and unprotected format with formulas intact) for all Strategist modeling carried out as part of this IRP.
- 1.5. For the Companies’ fleet, please provide the following historical annual data by unit, from 2005 to present:
 - a. Fixed O&M cost
 - b. Variable O&M cost (without fuel)
 - c. Fuel costs
 - d. Capital costs

- e. Heat rate
 - f. Generation
 - g. Capacity rating
- 1.6. For each existing generating unit, please provide the following projected annual data by unit, for the economic analysis period in this filing (i.e., 2014-2028):
- a. Fixed O&M cost;
 - b. Variable O&M cost (without fuel)
 - c. Fuel costs;
 - d. Capital costs
 - e. Capacity factor; and
 - f. Generation.
- 1.7. Please produce the energy market price forecasts used in the 2014 Resource Assessment, along with supporting analyses and workpapers.
- 1.8. Please produce the capacity market price forecasts used in the 2014 Resource Assessment, along with supporting analyses and workpapers.
- 1.9. Please confirm that for the years 2015-2018, the Companies calculated demand reductions and energy savings based on the assumption that the Companies' 2015-2018 DSM Plan is approved by the Commission without modification in case 2014-00003.
- 1.10. Please identify the annual, incremental energy savings that the Companies assume are achieved as a result of DSM programs each year from 2019-2028.
- 1.11. Please refer to the Strategist modeling conducted for the 2014 Resource Assessment.
- a. Was the model able to make market purchases and sales from the PJM and/or MISO markets?
 - b. Please identify all constraints placed on the model's ability to select or not select existing generating units, such as must-run designations or operational constraints.
 - c. Was the model set up to select retirement of existing generating units, or were retirement decisions made after reviewing the modeling results? Please explain.
- 1.12. Please refer to the 2014 Resource Assessment. In developing the scenarios, did the Companies assume a relationship or correlation between any of the variables (load, natural gas prices, coal prices, and/or CO₂ prices)?
- a. If so, please identify the assumed correlations between each variable, and produce any analyses and workpapers supporting such correlation.
- 1.13. Please refer to the 2014 Resource Assessment Addendum, page 5, Table 1.
- a. Please confirm that from 2019 through 2028, the cumulative reduction in peak demand achieved by DSM remains flat, at 406 MW.
 - b. If confirmed, please explain the basis for the Companies' assumption that no

incremental reduction in peak demand will be achieved through DSM programs between 2019 and 2028.

- i. Please provide all supporting documentation and workpapers.
 - c. If not confirmed, please identify the annual, incremental reduction in peak demand the Companies assume is achieved as a result of DSM programs each year from 2019-2028
- 1.14. Please provide the comments submitted by LG&E and KU to EPA on the proposed rule for each of the following regulations:
 - a. Coal Combustion Residuals rule;
 - b. Effluent Limitations Guidelines;
 - c. 316(b) cooling water intake rule;
 - d. New, proposed NAAQS, including the proposal to lower the ozone standard;
 - e. Carbon regulations, including the Clean Power Plan.
- 1.15. For each of the Companies' existing coal-fired units, please produce the most recent estimate that the Companies have prepared or caused to be prepared of the capital and O&M costs to comply with the following regulations.
 - a. Mercury and Air Toxics Standards;
 - b. Coal Combustion Residuals rule;
 - c. Effluent Limitations Guidelines;
 - d. 316(b) cooling water intake rule;
 - e. NAAQS, including any new ozone standard;
 - f. Cross State Air Pollution Rule; and
 - g. Carbon regulations, including the Clean Power Plan.
 - h. Pending enforcement actions by citizen groups or regulatory agencies of any state and/or federal environmental requirements.
- 1.16. Please refer to the 2014 Resource Assessment.
 - a. Please confirm that aside from CO₂ and SO₂ and NO_x costs, no other environmental compliance costs (capital or O&M) were used as inputs for the Strategist modeling.
 - i. If that is not correct, please list all state and/or federal regulations for which compliance costs were considered
 1. Please provide the capital and O&M costs for each regulation for each unit for each year of the analysis.
- 1.17. Please refer to the 2014 Resource Assessment. For each existing coal-fired unit owned by LG&E and/or KU, please identify the capital and O&M costs incurred each year from 2019-2028 to comply with the following regulations:
 - a. Mercury and Air Toxics Standards;
 - b. Coal Combustion Residuals rule;
 - c. Effluent Limitations Guidelines;

- d. 316(b) cooling water intake rule;
 - e. NAAQS, including any new ozone standard;
 - f. Cross State Air Pollution Rule; and
 - g. carbon regulations, including the proposed Clean Power Plan.
- 1.18. Have the Companies prepared or caused to be prepared any analyses of how the Clean Power Plan may affect its existing generating units? If so, please produce all such analyses.
- 1.19. Please refer to the 2014 Resource Assessment, page 19.
- a. Please confirm that the Resource Assessment used the low, mid, and high natural gas price forecasts from the EIA for all years through 2033. If denied, please identify the source and date of the gas price forecast used in the Resource Assessment.
 - b. Please confirm that for the years after 2033, the Resource Assessment escalated the EIA prices at the 2023-2033 compound annual growth rates. If denied, please identify the source, date, and method for deriving natural gas prices after 2033.
 - c. Please provide the workpapers used to develop the coal prices for each year of the analysis in the Resource Assessment.
- 1.20. Please refer to the 2014 Resource Assessment, page 38, Table 29. [REDACTED]
- 1.21. Please refer to the 2014 IRP, Volume I, page 5-5.
- a. Please state whether the Companies have decided whether to “extend[] the life of Green River units 3 and 4.”
 - b. Have the Companies decided whether to seek extensions of the MATS compliance deadline for Green River units 3 and 4?
 - c. Please produce all analyses the Company has prepared or caused to be prepared regarding whether to seek an extension of the MATS compliance deadline for Green River units 3 and 4.
- 1.22. Please refer to the 2014 IRP, Volume I, page 5-48, stating that “Black and Veatch performed a remaining life assessment on Brown 1 and 2 in 2012.” Please produce the study referenced in the preceding sentence.
- 1.23. Please refer to the 2014 IRP, Volume I, page 8-85.
- a. Please explain the basis for the Companies’ assertion that Jefferson County’s “issues with attainment status are expected to be mitigated.”
 - i. Provide any supporting documentation and/or workpapers.
 - b. Have the Companies conducted and/or reviewed any air dispersion modeling regarding Jefferson County’s attainment status under the new 24-hour NAAQS for PM_{2.5}? If so, please provide all such dispersion modeling.
 - c. Have the Companies conducted and/or reviewed any air dispersion modeling performed for sources that may impact Jefferson County’s attainment status under the

new 24-hour NAAQS for PM_{2.5}? If so, please provide all such dispersion modeling.

- 1.24. Please refer to the 2014 IRP, Volume I, pages 8-82 to 8-83.
 - a. Have the Companies conducted any assessment and/or modeling of the effect of lowering the ozone NAAQS to between .060 and .070 ppm on the attainment status of counties affected by emissions from LG&E and KU's existing coal-fired units?
 - b. Have the Companies conducted any assessment, study, and/or modeling of the impact on LG&E and KU's existing coal units of EPA lowering the ozone NAAQS to between .060 and .070 ppm? If so, please produce all such documents.
- 1.25. Have the Companies conducted any analysis comparing prior load forecasts to actual load over any of the last 10 years? If so, please produce all such analyses.
- 1.26. Please refer to the 2014 Resource Assessment, page 39, stating that “[f]or the purpose of this analysis, if an existing coal unit’s capacity factor was consistently less than 10 percent in a given load-CO₂ price scenario, the unit was assumed to be retired in the year when its capacity factor consistently dropped below 10 percent.”
 - a. Please explain what “consistently” means as used in the sentence above.
 - b. What is the quantitative meaning of “consistently” as used in the sentence above?
 - c. Does the sentence quoted above mean that if the capacity factor was less than 10% for a given number of years, or the average was less than 10% for a given number of years, that the unit was assumed to retire in the first year with a capacity factor less than 10%? If no, please explain the correct interpretation of the sentence quoted above.
- 1.27. Please refer to the 2014 Resource Assessment, page 39, stating that “[f]or the purpose of this analysis, if an existing coal unit’s capacity factor was consistently less than 10 percent in a given load-CO₂ price scenario, the unit was assumed to be retired in the year when its capacity factor consistently dropped below 10 percent.”
 - a. Please explain how the Companies decided on 10% as the capacity factor below which a unit would be assumed to retire (if the unit consistently had a capacity factor below 10%).
 - i. Please provide all supporting workpapers or documents relied on in settling on a 10% capacity factor.
 - b. As part of the 2014 IRP, did the Companies conduct or cause to be conducted any economic analysis, under any of the scenarios, of when existing units would have costs (fixed and variable costs) that exceed their revenues? If so, please provide any such analyses.
 - c. As part of the 2014 IRP, did the Companies conduct or cause to be conducted any economic analysis, under any of the scenarios, of when it would be economic to retire any existing generating units? If so, please provide any such analyses.
 - d. Within the last five years, have the Companies prepared or caused to be prepared any study of whether to continue to operate or retire any of their existing generating units? If so, please produce such studies.

- e. Have the Companies prepared or caused to be prepared any studies of the reliability impacts of retiring existing units, including but not limited to Brown units 1 and 2? If so, please produce such studies.
- 1.28. Please refer to the 2014 Resource Assessment's scenarios in which Brown units 1 and 2 are assumed to be retired in 2020.
- a. Does the pilot-scale carbon capture and sequestration project at the Brown plant impact the decision whether to retire any of the Brown units? If so, please explain.
 - b. Does the pilot-scale carbon capture and sequestration project have a parasitic load that has been accounted for in the evaluation of any of the Brown units? If so, please explain.

Respectfully submitted,



JOE F. CHILDERS
JOE F. CHILDERS & ASSOCIATES

300 Lexington Building
201 West Short Street
Lexington, Kentucky 40507
859-253-9824
859-258-9288 (facsimile)
childerslaw81@gmail.com

Of counsel:

(The following attorneys are not licensed to practice law in Kentucky.)

Shannon Fisk
Earthjustice
1617 John F. Kennedy Boulevard
Suite 1675
Philadelphia, PA 19103
(215) 717-4522
sfisk@earthjustice.org

Susan Laureign Williams
Sierra Club
50 F Street, NW, Eighth Floor
Washington, DC 20001
laurie.williams@sierraclub.org

Matthew Gerhart
Earthjustice
705 2nd Ave.
Suite 203
Seattle, WA 98104
(206) 343-7340
mgerhart@earthjustice.org

CERTIFICATE OF SERVICE

This is to certify that the foregoing copy of WALLACE MCMULLEN AND SIERRA CLUB'S INITIAL INFORMATION REQUESTS TO LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES COMPANY is a true and accurate copy of the document being filed in paper medium; that the electronic filing was transmitted to the Commission on November 7, 2014; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that a copy of the filing in paper medium is being mailed to the Commission on November 7, 2014.

Dennis G. Howard II, Esq.
Lawrence W. Cook, Esq.
Angela M. Goad, Esq.
Heather Napier, Esq.
Office of the Attorney General
1024 Capital Center Drive, Suite 200
Frankfort, KY 40601-8204
Dennis.Howard@ag.ky.gov
Larry.Cook@ag.ky.gov
Angela.Goad@ag.ky.gov
Heather.Napier@ag.ky.gov

Allyson KI. Sturgeon, Esq.
Senior Corporate Attorney
LG&E and KU Energy, LLC
220 West Main Street
Louisville, KY 40202
Allyson.Sturgeon@lge-ku.com

Rick Lovekamp
Manager Reg. Affairs
LG&E and KU Energy, LLC
220 West Main Street
Louisville, KY 40202
Rick.Lovekamp@lge-ku.com

Edwin R. Staton
Vice President, State Regulation and Rates
LG&E and KU Energy, LLC
220 West Main Street
Louisville, KY 40202
Ed.Staton@lge-ku.com

Michael L. Kurtz, Esq.
Kurt J. Boehm, Esq.
Jody Kyler Cohn, Esq.
Boehm, Kurtz & Lowry
36 East Seventh Street, Suite 1510
Cincinnati, OH 45202
mkurtz@BKLawfirm.com
kboehm@BKLawfirm.com
jkylerecohn@BKLawfirm.com

W. Duncan Crosby, III
Kendrick Riggs
Joseph Mandlehr
Stoll Keenon Ogden, PLLC
2000 PNC Plaza
500 West Jefferson Street
Louisville, KY 10202
duncan.crosby@skofirm.com
joseph.mandlehr@skofirm.com
kendrick.riggs@skofirm.com

/s/ Joe F. Childers _____