

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

In the Matter of:

JOINT APPLICATION OF LOUISVILLE GAS)	
AND ELECTRIC COMPANY AND KENTUCKY)	
UTILITIES COMPANY FOR CERTIFICATES)	
OF PUBLIC CONVENIENCE AND NECESSITY)	CASE NO. 2014-00002
FOR THE CONSTRUCTION OF A COMBINED)	
CYCLE COMBUSTION TURBINE AT THE)	
GREEN RIVER GENERATING STATION AND)	
A SOLAR PHOTOVOLTAIC FACILITY AT THE)	
E.W. BROWN GENERATING STATION)	

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

Intervenors Wallace McMullen and Sierra Club (collectively “Environmental Intervenors”) pursuant to the Kentucky Public Service Commission’s (“Commission”) February 6, 2014 Order (“February Order”), 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 February Order and by no later than the March 27, 2014 deadline set forth in the Appendix of the February Order. Please produce the requested documents in electronic format to:

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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.

“NO_x” 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, 2009 to the present.

DATA REQUESTS

- 1.1. Please provide all LG&E/KU confidential responses to data requests from all parties in this proceeding.
- 1.2. Please provide all exhibits, testimony, and workpapers (machine readable, unprotected, with formulas in-tact) included in this filing in non-redacted, electronic versions.
- 1.3. Please provide a non-redacted, full color or original digital copy of the two most recent

Integrated Resource Plans developed and/or filed in Kentucky by LG&E/KU.

- 1.4. Please refer to page 3 of the Application, which describes the Companies' intention to retire units at the Green River, Tyrone, and Cane Run plants.
 - a. Please confirm which units are assumed to be retired in the Companies' analysis for this case, and please indicate the year in which each unit is assumed to be retired.
 - b. Please confirm that units at the Companies' Brown facility are not assumed to be retired in the Companies' analysis for this case.
 - c. Please provide a copy of any transmission adequacy or reliability studies performed by or for LG&E/KU over the past three years regarding the retirement of units, whether individually or in combination with other units, at these plants.
 - d. Please describe any and all steps the Companies have taken thus far to prepare for the retirement of these units.
 - e. Please describe the Companies' timeline of future actions necessary to retire these units.
 - f. Please provide copies of any notices to regulatory authorities of the upcoming retirement of these units.

- 1.5. Please provide the following information for the years 2008-2014:
 - a. A list of all wind and solar energy projects built by LG&E/KU.
 - i. For each such project, identify the size, capital cost, fixed and variable operating cost, levelized cost of energy, and tax revenue for each year of operation.
 - b. A list of all wind and solar energy power purchase agreements entered into by LG&E/KU.
 - i. For each such project, identify the size, capital cost, fixed and variable operating cost, and the price at which LG&E/KU purchases power from the project for each year of the contract.
 - c. A list of all wind and solar energy projects or power purchase agreements that LG&E/KU considered but rejected participation in.
 - i. For each such project, identify the size, capital cost, fixed and variable operating cost, and the LCOE or power purchase price for the project.
 - ii. For each such project, explain why LG&E/KU decided not to participate in it.

- 1.6. For the Companies' fleet, please provide the following historical annual data by unit, from 2004 to present:
 - a. Fixed O&M
 - b. Variable O&M (without fuel)
 - c. Fuel costs
 - d. Capital costs
 - e. Heat rate
 - f. Generation
 - g. Capacity rating

- 1.7. For the Companies' fleet, please provide the following projected annual data by unit, for the economic analysis period in this filing:
 - a. Fixed O&M
 - b. Variable O&M (without fuel)
 - c. Fuel costs
 - d. Capital costs
 - e. Heat Rate
 - f. Generation
 - g. Capacity rating
- 1.8. Refer to page 3, paragraph 3 of the Companies' application.
 - a. Please provide the Bluegrass Generation Company purchase agreement.
 - b. Please provide analyses and workpapers supporting the Companies' choice of the Bluegrass Generation Company purchase agreement.
 - c. Provide the Companies' FERC filing seeking approval for this transaction.
- 1.9. Refer to page 4, paragraph 3 of the Companies' application.
 - a. Please provide all of the proposals received in response to the RFP referenced therein, including PPA's, new build proposals, self-build proposals and DSM programs.
 - b. Please provide any analyses of the proposals mentioned above, including supporting workpapers, that are not contained in the Resource Assessment.
- 1.10. Please refer to page 4 of the Application, which references 15% and 17% reserve margin targets.
 - a. Please explain how the Companies determined that a 15% or 17% capacity reserve margin is appropriate, and provide any supporting documents and/or analyses.
 - b. Have the companies considered joining an RTO such as MISO or PJM?
 - i. If yes, please provide any documents and/or analyses discussing the costs and benefits of joining an RTO.
- 1.11. Refer to the Direct Testimony of Paul W. Thompson, page 5, lines 8-10.
 - a. Please provide construction cost estimates for the new Cane Run project provided to the Commission or the parties in Case No. 2011-00375.
 - b. Please provide any updated construction cost estimates for the new Cane Run project.
- 1.12. Refer to the Direct Testimony of Paul W. Thompson, page 6, line 18. Describe the "valuable experience that will result from constructing and operating" the Brown Solar Facility.
- 1.13. Refer to the Direct Testimony of David S. Sinclair.
 - a. Please provide supporting workpapers and data for each table and figure in the testimony.
 - b. Where not provided, please provide annual data for each table in the testimony.

- 1.14. Refer to the Direct Testimony of David S. Sinclair, page 5, lines 20-24.
 - a. Please provide the mentioned sales forecasts, disaggregated by jurisdiction and customer class (with and without DSM).
 - b. Please provide past LG&E/KU sales forecasts from 2004 to present, disaggregated by jurisdiction and customer class (with and without DSM).
 - c. Please provide historical LG&E/KU sales from 2004 to present, disaggregated by jurisdiction and customer class (with and without DSM).
 - d. Please provide past LG&E/KU peak load forecasts from 2004 to present (with and without DSM).
 - e. Please provide historical LG&E/KU peak load from 2004 to present (with and without DSM).

- 1.15. Refer to the Direct Testimony of David S. Sinclair, page 6, lines 9-12.
 - a. Please provide the hourly load profiles used by the Company in this filing.
 - b. Please provide the methodology for converting hourly energy requirements to peak demand, including supporting workpapers.

- 1.16. Refer to the Direct Testimony of David S. Sinclair, page 7, line 19 to page 8, line 2.
 - a. Please provide the economic forecasts for Gross State Product and Employment provided by IHS Global Insight.
 - b. Please provide the projections of households and population provided by the Kentucky State Data Center.

- 1.17. Refer to the Direct Testimony of David S. Sinclair, page 9.
 - a. Please confirm that the most recent DSM potential studies used by the Companies are the two Cadmus studies referenced in the Companies' pending DSM case, No. 2014-00003.
 - b. In table 2, is the amount of energy saved from DSM each year the cumulative total?
 - c. With regards to the reference to "increases in energy efficiency that customers will achieve on their own:"
 - i. Identify the resulting level of energy savings and peak demand reduction that the Companies assumed for each year of the 2013 load forecast.
 - ii. Produce any supporting analyses and workpapers (in machine readable format with formulas intact) regarding energy efficiency achieved by customers on their own.

- 1.18. Refer to the Direct Testimony of David S. Sinclair, page 13, lines 7-11.
 - a. Please describe the changes in model inputs between the 2013 and 2014 load forecasts, including supporting analyses and workpapers.
 - b. Please produce the 2014 load forecast.

- 1.19. Refer to the Direct Testimony of David S. Sinclair, page 17, Table 5.

- a. Please provide the annual capacity from “Existing Resources” by unit.
 - b. Please provide the assumed annual generation by unit for “Existing Resources.”
 - c. Is the Company able to purchase energy from the PJM market?
 - i. If so, has the Company evaluated PJM energy market purchases as a future option?
 - 1. If so, please provide any analyses and workpapers used to evaluate PJM energy market purchases.
 - 2. If not, explain why not.
 - d. Is the Company able to purchase energy or capacity from the MISO market?
 - i. If so, has the Company evaluated MISO energy market purchases as a future option?
 - 1. If so, please provide any analyses and workpapers used to evaluate MISO energy market purchases.
 - 2. If not, explain why not.
 - e. Has the Company developed energy market price forecasts?
 - i. If so, please provide with supporting analyses and workpapers.
 - ii. If not, explain why not.
 - f. Has the Company developed capacity market price forecasts?
 - i. If so, please provide with supporting analyses and workpapers.
 - ii. If not, explain why not.
 - g. Does the Company have firm transmission access to PJM?
 - i. If so, please describe and provide supporting documentation and analyses.
 - h. Does the Company have firm transmission access to MISO?
 - i. If so, please describe and provide supporting documentation and analyses.
- 1.20. Refer to the Direct Testimony of David S. Sinclair, page 17, line 12 to page 18, line 1.
- a. Please provide any analyses conducted by or for the Companies on the Bluegrass Generation transaction, including supporting workpapers.
- 1.21. Refer to the Direct Testimony of David S. Sinclair, page 19, lines 5-14 and page 20, Figure 3.
- a. Please provide supporting analyses and workpapers for the load duration curves in each year.
 - b. Please provide the assumed energy source used to meet the hourly loads in Figure 3 from the following:
 - i. DSM
 - ii. Purchased power, by source
 - iii. LG&E/KU generation, by plant or unit (if available)
- 1.22. Refer to the Direct Testimony of David S. Sinclair, page 22, lines 6-7. Please provide the supporting analyses and workpapers used by the Companies in developing the following

risk factors:

- a. Load growth
 - b. Natural gas prices
 - c. Potential CO₂ regulations
 - d. Any other risk factors considered
- 1.23. Refer to the Direct Testimony of David S. Sinclair, page 22, lines 20-22.
- a. Please provide the low and high load forecasts, including supporting analyses and workpapers.
 - b. Did the Resource Assessment evaluate off-system purchases as an alternative?
 - i. If so, please provide assumptions and supporting analyses of off-system purchases as an alternative.
 - ii. If not, why not?
- 1.24. Refer to the Direct Testimony of David S. Sinclair, page 25, lines 11-13. In developing the scenarios, did the Companies assume a relationship or correlation between any of the variables (load, natural gas prices or CO₂ prices)?
- a. If so, please identify the assumed correlations between each variable, and produce any analyses and workpapers supporting such correlation.
- 1.25. Refer to the Direct Testimony of David S. Sinclair, page 27, lines 11 to 12. Describe the operational experience the Companies expect to gain through the Brown Solar Project and the value of gaining such experience.
- 1.26. Refer to the Direct Testimony of David S. Sinclair, page 27, lines 19 to 22.
- a. Identify the source for the estimated price of solar panels as of late 2012 and late 2013.
 - b. Identify by when the Companies would purchase or contract to purchase the panels for the Brown Solar Project.
 - c. State whether you expect the price of solar panels to continue to decline by the time the Companies would be purchasing or contracting to purchase the panels for the Brown Solar Project.
- 1.27. Refer to the Direct Testimony of David S. Sinclair, page 28, lines 20-24.
- a. Please list the PPA's that were considered in the analysis of "deferring a long-term resource."
 - b. Please provide the deferral analysis, including supporting workpapers.
- 1.28. Refer to the Direct Testimony of David S. Sinclair, page 29, lines 6-20.
- a. Please provide Standard and Poor's credit rating report for the Company in question.
 - b. Please provide any other evidence pointing to the financial risks of entering into the PPA.
 - c. Please provide any analyses conducted by or for the Companies on the PPA mentioned, including supporting workpapers.

- d. Please explain the risks associated with a self-build proposal and provide any supporting analyses and workbooks.
- 1.29. Please refer to page 34, lines 1-9, of the direct testimony of David Sinclair.
- a. Did the Companies assume no additional energy savings would be achieved from DSM programs after 2018?
 - i. If so, explain why.
 - ii. If not, please identify the additional, annual energy savings from DSM programs expected to be achieved after 2018.
 - b. Is it the Companies' position in this case that the Companies are on track with their current and planned DSM programs to exhaust all achievable, cost-effective energy savings by 2020?
 - i. If so, explain the basis for the position.
 - ii. If not, please identify the incremental energy savings the Companies expect to achieve each year between 2020-2042.
- 1.30. Refer to the Direct Testimony of David S. Sinclair, page 35, lines 6-8.
- a. Please provide the short-term PPA.
 - b. Please provide any analyses on the short-term PPA conducted by or for the Companies.
- 1.31. Please refer to Exhibit DSS-1, page 1, which refers to a resource adequacy analysis completed in summer 2012. Please produce the resource adequacy analyses referenced.
- 1.32. Page 6 of Exhibit DSS-1 states, "As more time elapses following the retirement of the Green River coal units, the ability to obtain an air permit for a new NGCC unit without operating constraints (e.g., annual start limitations) becomes more uncertain."
- a. Are the Companies referring to their contention that the decrease in emissions from Green River units 3 and 4 can be used to net out the SO₂, NO_x, and PM emissions from a new NGCC, and thus avoid triggering PSD requirements?
 - b. If not, please explain the basis for this statement.
- 1.33. Page 9 of Exhibit DSS-1 states, "According to IHS Global Insight, the Kentucky RGSP is expected to grow by an average of 2.0% per year between the years 2012 and 2042."
- a. Please indicate when IHS Global Insight made this prediction regarding the State of Kentucky's real gross state product, and identify and produce the source of that prediction.
 - b. Please indicate whether the Companies are aware of how the actual real gross state product in 2012 and 2013 compared to the real gross state product projected by IHS Global Insight.
- 1.34. Page 11, footnote 15, of Exhibit DSS-1 states, "The Mid and High gas price cases are escalated at the 2032-2033 growth rates in EIA's Reference and Low EUR forecasts, respectively. The Low gas price gas is escalated at the 2023-2033 CAGR." Please explain why the mid and high gas prices are escalated at a different growth rate, derived

from the growth rate in different years, than the growth rate applied to the low gas price.

- 1.35. Please refer to the discussion on page 18 of Exhibit DSS-1 regarding the costs considered in the phase 1 screening analysis.
 - a. Were environmental compliance costs, aside from CO₂ costs, considered in the phase 1 screening analysis?
 - i. If yes, please indicate all state and/or federal regulations for which compliance costs were considered and provide the compliance costs for each project, if applicable.
- 1.36. Please refer to Exhibit DSS-1, page 22, table 14, which contains the categories of costs used to calculate the PVRR for projects.
 - a. Please confirm that environmental compliance costs, aside from CO₂ costs, were not considered in the Phase 2 analysis.
 - i. If that is not correct, please list all state and/or federal regulations for which compliance costs were considered and provide compliance costs for each project, if applicable.
- 1.37. Please refer to Exhibit DSS-1, page 36, which states, “As mentioned previously, if the Green River unit is commissioned after 2018, the analysis assumes the Companies would not be able to offset the new unit’s emissions with the retirement of the Green River coal units.”
 - a. Please indicate which “emissions” are being referred to from the new unit (i.e., which pollutants are being referenced).
 - b. Explain why the Companies would not be able to offset the new unit emissions if the new unit were commissioned after 2018.
- 1.38. Please refer to Exhibit DSS-1, page 36, which states, “Absent this offset, the new unit would likely be subject to additional operating constraints.”
 - a. Please indicate what potential “additional operating constraints” the companies are referring to.
 - b. Identify the PVRR impact of such additional operating constraints in each of the scenarios that were evaluated.
- 1.39. Please refer to Exhibit DSS-1, page 44. Identify and produce the EPRI study that “supported the view that solar panel costs were decreasing.”
- 1.40. Please refer to Exhibit DSS-1, page 45, which states that HDR conducted “a conceptual siting study review” of the proposed solar project. Please produce HDR’s conceptual siting study.
- 1.41. Please refer to Exhibit DSS-1, page 44, which states that the current market price for RECs is \$26 and that the companies used three REC prices (\$0, \$16, and \$26).
 - a. Please explain how the companies decided to use \$0, \$16 and \$26 as the 2016 REC prices, and provide any analyses supporting the use of such REC prices.

- b. Identify and produce any projection of the market price in Ohio of solar RECs from Kentucky.
 - c. Given that the companies used two REC price scenarios lower than the current Ohio market price of \$26, why did the companies not use a “high” REC scenario in which REC prices would be higher than current market prices?
 - d. Did the companies consider how REC prices might be affected by the CO2 price used in the mid CO2 scenario?
 - i. If so, please explain.
 - ii. If not, explain why not.
- 1.42. Please refer to Exhibit DSS-1, page 46, which states, “In order for the project to break-even, REC prices would need to be considerably higher than current pricing for Kentucky solar RECs; REC prices would need to range from \$57 to \$79 per REC, which is more in line with prices in New Jersey and Maryland.” Please provide any calculations and/or analyses regarding the break-even REC prices that support this statement.
- 1.43. Refer to the Exhibit DSS-1.
- a. Please provide the STRATEGIST input and output files, in machine-readable format, for each alternative option the Companies evaluated in their economic analysis.
 - b. Please provide the PROSYM input and output files, in machine-readable format, for each alternative option the Companies evaluated in their economic analysis.
 - c. Please provide supporting workpapers and data for each table and figure in the exhibit.
 - d. Where not provided, please provide annual data for each table in the exhibit.
- 1.44. Refer to the Exhibit DSS-1, page 1. Please provide the costs assumed in the analyses in this filing for compliance of each of the Companies’ coal units with the following regulations (please list capital and annual O&M costs separately):
- a. Mercury and Air Toxics Standards;
 - b. Coal Combustion Residuals rule;
 - c. Effluent Limitations Guidelines;
 - d. 316(b) cooling water intake rule;
 - e. NAAQS;
 - f. Cross State Air Pollution Rule;
 - g. Clean Air Interstate Rule; and
 - h. carbon regulations, in any form.
- 1.45. Refer to the Exhibit DSS-1, page 3.
- a. Please provide any communications between the Companies and FERC regarding the Bluegrass Generation project.
- 1.46. Refer to the Exhibit DSS-1, pages 11-12.
- a. Please provide the assumptions and workpapers underlying the natural gas price

forecasts.

- b. Please provide the assumptions and workpapers underlying the coal price forecasts.
 - c. Please provide the coal market bid prices used in developing the coal price forecast.
 - d. Please provide the Wood Mackenzie coal forecasts with supporting inputs, assumptions and workpapers.
- 1.47. Refer to the Exhibit DSS-1, pages 18.
- a. Please provide supporting analyses and workpapers for Phase 1 analysis.
 - b. Please provide the PVRR calculations and supporting workpapers for the Phase 1 analysis.
 - c. Please provide the following Phase 1 screening analysis costs for each proposal, including:
 - i. Fuel/Energy costs
 - ii. Start costs
 - iii. Hourly operating cost
 - iv. Variable O&M
 - v. Unit capital costs
 - vi. Fixed O&M
 - vii. Capacity charge
 - viii. Fixed cost for firm transmission service
 - ix. Firm gas transportation costs
 - x. PPA capacity charge
 - xi. PPA financing costs
 - xii. CO₂ emissions costs
 - d. To the extent not already provided, please provide all inputs used to calculate the cost of the 10MW solar project.
- 1.48. Refer to the Exhibit DSS-1, pages 22.
- a. Please identify the PPA's that were considered for each iteration of the Phase 2 analysis.
 - b. Please identify and explain those PPA's that "passed the Phase 1 screening analysis but were not considered in the Phase 2 analysis."
 - i. Please provide supporting analyses and workpapers for these decisions.
 - c. Please provide supporting analyses and workpapers for each iteration of Phase 2 analysis.
 - d. Please provide the PVRR calculations and supporting workpapers for each iteration of the Phase 2 analysis.
 - e. Please provide the following Phase 2 screening analysis costs for each proposal and resource, including:
 - i. Fuel/Energy costs
 - ii. Start costs

- iii. Hourly operating cost
 - iv. Variable O&M
 - v. Unit capital costs
 - vi. Fixed O&M
 - vii. Capacity charge
 - viii. Fixed cost for firm transmission service
 - ix. Firm gas transportation costs
 - x. PPA capacity charge
 - xi. PPA financing costs
 - xii. CO₂ emissions costs
- f. To the extent not already provided, please provide all inputs used to calculate the PVRR of the 10MW solar project.
- 1.49. Refer to the Exhibit DSS-1, pages 36. Please identify the costs of deferring the building of the NGCC unit by two years, including supporting analyses and workpapers.
- 1.50. Refer to the Exhibit DSS-1, pages 52-53.
- a. Please provide any economic analyses conducted on the PPA considered by the Companies.
 - b. Please provide any market price analysis used to determine the financial risk of the PPA, including supporting workpapers.
 - c. Please provide any environmental control costs associated with the PPA that were evaluated by the Companies, including supporting analyses and workpapers.
- 1.51. Refer to the Exhibit DSS-1, pages 55-56. Please provide documents and analyses used in developing capital costs for the new NGCC.
- 1.52. Please refer to Exhibit DSS-1, page 57, regarding the modeling of the 10MW solar project using PVWatts. Please produce the modeling files, including input and output files, modeling results, and the workpapers and supporting analyses used in the modeling.
- 1.53. Please refer to Exhibit DSS-3. Are the Companies assuming that after 2019, DSM has no impact on energy requirements?
- a. If yes, please explain the basis for that assumption.
 - b. If no, please explain why the energy requirements column is unchanged after 2019.
- 1.54. Please refer to page 4, lines 12-15, of the direct testimony of John Voyles, which describes the Companies' intention to seek bids for turbines that are $\pm 10\%$ of 700 MW.
- a. Did the companies evaluate the economics of a 770 MW project?
 - b. Did the companies evaluate the economics of a 630 MW project?
 - c. Is it the Companies' position that the economics of a 770 MW NGCC are not substantially different from the economics of a 670 MW NGCC, all other things being equal?

- 1.55. Refer to the Direct Testimony of John N. Voyles, Jr., page 8. Please provide a detailed construction schedule for the new NGCC including spending over time and by type of spending.
- 1.56. Refer to the Direct Testimony of John N. Voyles, Jr., page 11, lines 4-10.
 - a. Please provide any supporting analyses and workpapers for the fixed and variable cost assumptions for the new NGCC.
 - b. Please provide any supporting analyses and workpapers for the new NGCC's annual generation.
- 1.57. Refer to the Direct Testimony of John N. Voyles, Jr., page 12, lines 4-5. Please provide a detailed construction schedule for the transmission projects including spending over time and by type of spending.

Respectfully submitted,



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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 March 13, 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 hand delivered to the Commission. In addition, I certify that I mailed a copy by first class mail on March 13, 2014 to the following:

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