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OCT 04 2013

PUBLIC SERVICE
COMMISSION

October 10, 2013

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602

Via Courier

**Re: CASE NO. 2013-00259, Sonia McElory And Sierra Club's Initial Requests
for Information to East Kentucky Power Cooperative**

Dear Mr. Derouen:

Enclosed are an original and 10 copies of *Sonia McElory And Sierra Club's Initial Requests for Information to East Kentucky Power Cooperative* and a certificate of service. This filing contains no confidential material.

Sincerely,

Grant Tolley
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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

OCT 04 2013

PUBLIC SERVICE
COMMISSION

In the Matter of:

AN APPLICATION OF EAST KENTUCKY)
POWER COOPERATIVE, INC. FOR A)
CERTIFICATE OF PUBLIC CONVENIENCE)
AND NECESSITY FOR ALTERATION OF)
CERTAIN EQUIPMENT AT THE COOPER)
STATION AND APPROVAL OF A COMPLIANCE)
PLAN AMENDMENT FOR ENVIRONMENTAL)
SURCHARGE COST RECOVERY)

CASE NO. 2013-00259

SONIA MCELROY AND SIERRA CLUB'S INITIAL REQUESTS FOR
INFORMATION TO EAST KENTUCKY POWER COOPERATIVE

Proposed Intervenors Sonia McElroy and Sierra Club (collectively "Environmental Intervenors") pursuant to the Kentucky Public Service Commission's ("Commission") September 20, 2013 Order ("September Order"), propound the following requests for information on the East Kentucky Power Cooperative's ("EKPC") request in the above captioned proceeding.

EKPC shall answer these requests for information in the manner set forth in the September Order and by no later than the October 18, 2013 deadline set forth in the Appendix of the September Order. Please produce the requested documents in electronic format to:

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San Francisco, CA 94105
kristin.henry@sierraclub.org

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14 School Street
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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,” “EKPC,” “Cooperative,” or “Company” refers to East Kentucky Power Cooperative, 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 in-tact

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. Provide all EKPC 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 the filing in non-redacted, electronic versions.

- 1.3. Please provide a non-redacted, full color or original digital copy of any Integrated Resource Plans developed and/or filed in Kentucky by EKPC since 2008.

- 1.4. For each of Cooper Unit 1, Cooper Unit 2, and the Dale Station:
 - a. Identify the retirement date assumed in EKPC's filing
 - b. Identify the remaining book life assumed in EKPC's filing
 - c. Identify the current undepreciated book value, and the expected undepreciated book value for each year of the remaining operating life of the unit
 - d. Identify the current salvage value, and the expected salvage value for each year of the remaining operating life of the unit
 - e. Produce the most recent depreciation study
 - f. Produce the most recent condition or performance assessment
 - g. Produce the most recent retirement, continued unit operation, or life extension study or analysis
 - h. Produce any analysis or assessment of the economics of continued operation of such unit
 - i. Produce any analysis or assessment of the need for the continued operation of each unit
 - j. Produce any analysis or assessment of the need for and cost of necessary or potentially necessary capital additions to any unit
 - k. Produce any analysis or assessment of the risks of continued operation of the units.

- 1.5. For each of Cooper Units 1 and 2 and the Dale Station, identify and produce any analysis comparing the cost of continued operation of the unit with retiring and replacing the unit's energy and capacity with a combination of any of the following energy resources:
 - a. Energy efficiency
 - b. Demand response
 - c. Market purchases
 - d. Power purchase agreements
 - e. Existing natural gas combined cycle or combustion turbine capacity
 - f. New natural gas combined cycle or combustion turbine capacity
 - g. Conversion of natural gas combustion turbines to natural gas combined cycle units
 - h. Combined heat and power
 - i. Wind
 - j. Solar
 - k. Geothermal
 - l. Any combination or permutation of the above resources

- 1.6. Please provide a copy of any transmission adequacy studies performed by or for EKPC over the past three years.
- 1.7. Please provide a copy of FERC Form 715 information, including all submitted data, filed by or on behalf of EKPC for each of the last three years.
- 1.8. State whether EKPC has examined the impact on capacity adequacy, transmission grid stability, transmission grid support, voltage support, or transmission system reliability if EKPC were to retire or idle the Dale Station or Cooper Units 1 or 2 in 2014, 2015, or 2016.
 - a. If so, identify:
 - i. Any such impact
 - ii. The cost of remediating each such impact
 - iii. The time it would take to remediate each such impact
 - b. If not:
 - i. Explain why not
 - ii. Identify any studies or analyses that EKPC believes would be needed to identify any such impacts
 - iii. Identify when EKPC anticipates it would know such impacts, and under what circumstances such impacts would occur.
- 1.9. Refer to p. 5, paragraph 15 of EKPC's application. Produce all of the proposals received in response to the RFP referenced therein.
- 1.10. Produce a copy of any forecast or projection of future CO2 costs, taxes, emissions allowances prices, or regulations that have been prepared by or for EKPC.
- 1.11. Identify and produce any evaluation created or reviewed by EKPC of the cost, feasibility, or availability in the EKPC service territory, Kentucky, or any neighboring state of any of the following supply side resources:
 - a. Wind
 - b. Solar
 - c. Hydro

- d. Landfill gas to energy
- e. Existing natural gas combined cycle capacity
- f. New natural gas combined cycle capacity

1.12. Please provide the following information for the years 2008-2013:

- a. A list of all wind energy projects built by EKPC
 - i. For each such wind energy 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 energy power purchase agreements entered into by EKPC
 - i. For each such wind energy project, identify the size, capital cost, fixed and variable operating cost, and the price at which EKPC purchases power from the project for each year of the contract.
- c. A list of all wind energy projects or power purchase agreements that EKPC considered but rejected participation in.
 - i. For each such wind energy 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 wind energy project, explain why EKPC decided not to participate in it.

1.13. Refer to the Application, Exhibit 1a, page 5 of 14.

- a. Identify the NPV of each of the proposals on the “Short List”
- b. Produce any analyses, modeling files, and workpapers (in electronic format with formulas intact) used to calculate the NPV of each of the proposals on the “Short List”.
- c. Identify for each year of the analyses used to calculate the NPV of each of the proposals on the “Short List” the value for each of the following inputs used in the NPV analysis:
 - i. Energy prices
 - ii. Coal prices
 - iii. Natural gas prices
 - iv. Capacity prices
 - v. Carbon prices
 - vi. Renewable energy credits
 - vii. Variable O&M
 - viii. Fixed O&M
 - ix. O&M costs to comply with environmental regulations

- x. Environmental capital costs
 - xi. Non-environmental capital costs
 - xii. Unit dispatch price
 - xiii. Discount rate
 - xiv. Book life
 - xv. Analysis period (years)
 - xvi. SO₂ allowances
 - xvii. NO_x allowances
 - xviii. Nameplate capacity
 - xix. Maximum summer capacity
- d. Please provide any analyses used to develop the inputs listed above with supporting workbooks in electronic, machine-readable format with formulas intact.
- 1.14. Refer to Application Exhibit 1a, page 8 of 14, referring to the project being considered in this filing: “However, this project will limit the operational flexibility of the units at Cooper. Due to the fact that the scrubber will be shared by the units, the operation of the units will have to be carefully coordinated. ”
- a. Describe in what ways the units will have to be carefully coordinated.
 - b. Provide analyses to support this statement.
 - c. Explain how the “carefully coordinated” operation of the units was treated in the NPV analysis for the Cooper retrofit project.
- 1.15. Refer to Application Exhibit 1a, page 8 of 14, referring to the project being considered in this filing: “The greatest impact to unit operation will be when only unit 1 is in operation. During that time, unit 1 will be restricted to a minimum load of approximately 100 MW in order for the scrubber to continue operation. ”
- a. Please provide analyses to support this statement.
 - b. Please explain how the “minimum load of approximately 100 MW” limitation was treated in the NPV analysis for the Cooper retrofit project.
 - c. Please provide the current minimum load for Cooper unit 1.
 - d. Please provide the projected annual capacity factor or annual generation (in MWh) of Cooper unit 1 for each year of the NPV analysis.
 - e. Does an approximately 100 MW minimum load after the project change the flexibility of that unit, compared with before the project?
 - i. If so, please explain.
 - ii. If not, explain why not.

- 1.16. Refer to Exhibit 1a, page 9 of 14, referring to intermittent resources: “When evaluating proposals for the Short List, the value of the forecast energy from wind and solar resources was not discounted to reflect its intermittent quality. Therefore, the NPVs for the intermittent proposals overstate their value added to EKPC in relation to the NPVs of proposals for conventional resources.”
 - a. Please explain how wind and solar energy should be “discounted” compared to conventional sources and provide any supporting analyses and workpapers (in electronic, machine-readable format with formulas intact) to support this statement.
 - b. Please estimate the extent to which the NPV for wind and solar resources “overstate their value” and provide any supporting analyses and workpapers (in electronic, machine-readable format with formulas intact) to support this statement.

- 1.17. Refer to Application Exhibit 1a, page 10 of 14, referring to uncertainty: “With rapid technological change, the potential for demand response to diminish requirements for new capacity only increases.”
 - a. Please provide any analysis to support this statement.
 - b. Did EKPC consider proposals for demand response to fulfill their capacity need?
 - i. If so, please provide any supporting analyses including workbooks (in electronic, machine-readable format).
 - ii. If not, explain why not.

- 1.18. Refer to Application Exhibit 1a, page 11 of 14, referring to the risks of self-build: “This means that a self-build proposal needs to have a higher expected value added than an otherwise comparable proposal from a third party.”
 - a. Please explain how much higher the expected value has to be for a self-build proposal compared to that of a third party for self-build to be the best option. Please also provide any analyses including workbooks (in electronic, machine-readable format) supporting this claim.
 - b. Please explain the risks associated with self-build and provide any supporting analyses including workbooks (in electronic, machine-readable format).
 - c. Is there a risk that capacity prices and energy prices will not be sufficient to support the continued operation of Cooper unit 1?
 - i. If so, please explain and provide supporting analyses and workpapers (in electronic, machine-readable format).
 - ii. If not, why not?

- 1.19. Refer to Application Exhibit 1a at page 12 of 14. Regarding the “over \$50 million” NPV for the Project “over a ten-year time horizon”
- a. Produce any analyses, modeling files, and workpapers (in electronic format with formulas intact) used to calculate the NPV of the Project.
 - b. Please explain why the NPV analysis was performed for a ten-year time horizon, rather than over some other time period.
 - c. Please explain why it was assumed that “the plant would not provide energy margins or capacity revenues more than ten years after completion.”
 - d. State whether it is possible that the future fixed costs of Cooper unit 1 could exceed the capacity revenues collected from the plant, for the analysis period
 - i. If so, please explain and provide supporting analyses and workpapers (in electronic, machine-readable format).
 - ii. If not, why not?
 - e. Identify for each year of the analyses used to calculate the NPV of each of the proposals on the “Short List” the value for each of the following inputs used in the NPV analysis:
 - i. Market Energy prices
 - ii. Coal prices
 - iii. Natural gas prices
 - iv. Capacity prices
 - v. Carbon prices
 - vi. Renewable energy credits
 - vii. Variable O&M cost
 - viii. Fixed O&M cost
 - ix. O&M costs to comply with environmental regulations
 - x. Environmental capital costs
 - xi. Non-environmental capital costs
 - xii. Unit dispatch price
 - xiii. Heat rate
 - xiv. Discount rate
 - xv. Book life of the plant
 - xvi. SO₂ allowances
 - xvii. NO_x allowances
 - xviii. Nameplate capacity
 - xix. Maximum summer capacity
- 1.20. Refer to Application Exhibit 1a at pages 12 to 13 of 14. Regarding the statement that “even if it did not produce any electric energy over this time horizon, the retrofit of Cooper 1 would be a break-even NPV”
- a. Produce any analyses, modeling files, and workpapers (in electronic format with

- formulas intact) used to calculate such break-even NPV.
- b. State whether the values for the inputs identified in SC 1.19e above were the same in the analysis used to calculate the break-even NPV as they were in the analysis used to calculate the “over \$50 million” NPV of the Project.
 - i. If not, identify the annual value for each input that is different, and explain why it is different.
- 1.21. Refer to Application Exhibit 1a. With regards to the NPV modeling results discussed therein:
- a. Identify the vendor of the model used to generate the NPV results, and provide contact information for the vendor.
 - b. Does the model require a license in order to gain access to raw (i.e., as used) data files? If so, provide a vendor contact who could provide such a license.
 - c. Does the model require a license in order to operate the model? If so, provide a vendor contact who could provide such a license.
 - d. Did an employee of Brattle Group or EKPC operate the model? If so, please identify the individual or individuals who operate the model at Brattle Group or EKPC.
 - e. If EKPC uses any other production cost or optimization models or market valuation models aside from the model for this case, please identify those models and their vendors.
 - f. Produce in machine-readable, electronic, digital format, as used by Brattle Group or EKPC, with protections removed, all input files used in production cost or optimization or market valuation modeling for this case.
 - g. Please identify any changes to the input files that may be required to reproduce modeling for this case. Please specify why such changes are required.
 - h. To the extent that such input files, as used by the Brattle Group or EKPC, cannot be produced in a commonly accessible format (i.e., text file, spreadsheet, or Access file), produce input files in a commonly accessible format.
 - i. Produce in machine-readable, electronic, digital format, as used by the Company, with protections removed, all output files used in production cost or optimization or market valuation modeling for this case.
 - j. To the extent that such output files, as used by Brattle Group or EKPC, cannot be produced in a commonly accessible format (i.e. text file, spreadsheet, or Access file), produce input files in a commonly accessible format.
 - k. Produce any other files, worksheets, or workpapers used to develop, interpret, or review inputs or outputs of production cost or optimization or market valuation modeling for this case.
 - l. Please identify the assumptions, including any supporting documentation, Brattle Group or EKPC or its agents used in each base case and sensitivity scenario modeled

- 1.22. Refer to Application Exhibit 1a, page 13 of 14, referring to the project being considered in this filing: “It would leave EKPC with 116 MW more coal-fired capacity than it would have if Cooper 1 was retired, and thus with that much more capacity exposed to coal market price risk and the potential for a carbon tax and/or carbon regulations.”
 - a. Explain what is meant by “coal market price risk” and provide supporting analyses and workpapers (in electronic, machine-readable format).
 - b. State whether the NPV analysis included a sensitivity for “coal market price risk”?
 - i. If so, provide the supporting analysis and workpapers (in electronic, machine-readable format).
 - ii. If not, explain why not
 - c. Explain the “potential for a carbon tax and/or carbon regulations” and provide supporting analyses and workpapers (in electronic, machine-readable format)
 - d. State whether the NPV analysis of the Project or of the proposals on the Short List included a sensitivity for the “potential for a carbon tax and/or carbon regulations”
 - i. If so, provide the supporting analysis and workpapers (in electronic, machine-readable format)
 - ii. If not, explain why not.

- 1.23. Refer to the Direct Testimony of Julia J. Tucker, page 3, lines 18-21.
 - a. Has EKPC developed plans to bring the Dale plant into compliance with MATS and other EPA regulations?
 - i. If so, please provide such analyses and workpapers (in electronic, machine-readable format).
 - ii. If not, explain why not.

- 1.24. Refer to the Direct Testimony of Julia J. Tucker, page 4, lines 11-14. Please provide the following, with supporting workpapers (in electronic, machine-readable format):
 - a. EKPC’s historical annual peak load since 2002 (or earliest available).
 - b. EKPC’s historical annual capacity reserve requirement since 2002 (or earliest available).
 - c. EKPC’s historical annual sales since 2002 (or earliest available).
 - d. EKPC’s historical annual generation since 2002 (or earliest available).
 - e. EKPC’s projected annual peak load assumed for each of the years of the NPV analysis.
 - f. EKPC’s projected annual capacity reserve requirement assumed for each of the years of the NPV analysis.
 - g. EKPC’s projected annual sales assumed for each of the years of the NPV analysis.
 - h. EKPC’s projected annual generation (by plant) assumed for each of the years of the NPV analysis.

- 1.25. Refer to the Direct Testimony of Julia J. Tucker, page 4, lines 16-17. Has EKPC evaluated the “cost to serve load” if Dale and Cooper Unit 1 were retired “without any replacement capacity”?
 - a. If so, provide such analyses and workpapers (in electronic, machine-readable format).
 - b. If not, explain why not.

- 1.26. Refer to the Direct Testimony of Julia J. Tucker, page 7, lines 19-22.
 - a. Please provide all inputs EKPC provided to Brattle Group, including supporting workpapers (in electronic, machine-readable format).
 - b. Please provide Brattle Group’s “fixed costs analysis” including workpapers in electronic, machine-readable format.

- 1.27. Refer to the Direct Testimony of Julia J. Tucker, page 8, lines 1-3.
 - a. Produce the “six proposals” mentioned in their entirety.
 - b. Identify and produce the seventh proposal that EKPC chose to include in the Short List, and explain why EKPC chose to include it.
 - c. Please provide the NPV analysis and results for each of the seven proposals, including supporting workpapers (in electronic, machine-readable format with formulas intact).

- 1.28. Refer to the Direct Testimony of Julia J. Tucker, page 8, lines 19-20.
 - a. Please explain how long the project will take to “pay for itself.”
 - b. Please explain how the project will “help improve operating costs for the second unit at the facility” and provide supporting workpapers (in electronic, machine-readable format).

- 1.29. Refer to the Direct Testimony of Julia J. Tucker, page 9, lines 5-6.
 - a. Please explain the claim that procuring smaller amounts of capacity “spreads technology and operation risks.”
 - b. State whether there are potential cost savings associated with procuring larger blocks of capacity
 - i. If so, please explain.
 - ii. If not, explain why not
 - c. State whether EKPC entertained any bids for the full 300 MW of capacity need

- i. If so, please provide those bids and any analyses performed by Brattle Group or EKPC in evaluating these bids, including workpapers (in electronic, machine-readable format).
 - ii. If not, explain why not.

- 1.30. Refer to the Direct Testimony of Julia J. Tucker, page 10, lines 5-7. Please provide the presentations made to the board on the RFP process and results.

- 1.31. Refer to the Direct Testimony of James Read, page 6, lines 7-9.
 - a. Produce the proposals submitted by EKPC's PPE&C group in response to the RFP
 - b. Produce any analyses, including workpapers (in electronic, machine-readable format) performed by Brattle Group in evaluating the proposals submitted by EKPC's PPE&C group.

- 1.32. Refer to the Direct Testimony of James Read, page 7, lines 13-19.
 - a. Please provide any analyses, including supporting workpapers (in electronic, machine-readable format), performed by Brattle Group or EKPC on the projected capacity and energy position for the analysis period.
 - b. Please provide annual operating characteristics for Cooper unit 1 used in Brattle Group's analysis, and supporting workpapers (in electronic, machine-readable format), including (not limited to):
 - i. Nameplate capacity
 - ii. Maximum summer capacity
 - iii. capacity factor or annual generation (in MWh)
 - iv. Heat rate
 - v. Variable O&M cost (in \$/MWh)
 - vi. Fuel Costs (in \$/MMBtu)
 - vii. Fixed O&M cost (in \$/kw-yr)
 - viii. Annual capital expenditures, if not included in fixed O&M
 - c. Please provide PJM market energy and capacity price assumptions used in Brattle Group's analysis including supporting workpapers (in electronic, machine-readable format).
 - d. Given that EKPC has joined PJM, did the Brattle Group consider market purchases of capacity and energy as an alternative to the Cooper retrofit project?
 - i. If so, please provide supporting analyses, including workpapers (in electronic, machine-readable format).
 - ii. If not, explain why not

- 1.33. Refer to the Direct Testimony of James Read, page 8, lines 1-9. Please confirm that there are market conditions that could exist whereby the NPV of Cooper unit 1 could be negative.
 - a. If so, please provide supporting analyses, including workpapers (in electronic, machine-readable format).
 - b. If not, explain why not

- 1.34. Refer to the Direct Testimony of James Read, page 8, lines 11-12. State whether Brattle Group evaluated combinations of proposals to fulfill EKPC's capacity need
 - a. If so, please provide supporting analyses, including workpapers (in electronic, machine-readable format).
 - b. If not, explain why not

- 1.35. Refer to the Direct Testimony of James Read, page 9, lines 15-17. Please explain the "market risks" that EKPC would hedge by shifting towards more natural-gas generation and provide supporting analyses, including workpapers (in electronic, machine-readable format).

- 1.36. Refer to the Direct Testimony of Jerry B. Purvis.
 - a. Identify the type or types of coal that Cooper Unit 1 and Cooper Unit 2 currently burn
 - b. State whether EKPC plans to change the type of coal it burns at Cooper unit 1 and Cooper Unit 2 over the next ten years
 - i. If so, please provide analyses performed by EKPC to support coal switching.

- 1.37. Refer to the Direct Testimony of Jerry B. Purvis, page 7, lines 4-5. Does EKPC expect to be responsible for the costs for additional CEMs to demonstrate MATS compliance?
 - a. If so, please provide analyses and workpapers (in electronic, machine-readable format) that were used estimate costs for the CEMs to "demonstrate compliance with MATS."
 - b. If not, explain why not.

- 1.38. Refer to the Direct Testimony of Block Andrews, page 4, lines 14-19.
- a. Did Burns & McDonnell or EKPC identify any options beyond that of ducting Cooper 1 exhaust through the Cooper 2 DFGD/PJFF system?
 - i. If so, please enumerate all compliance options discussed or identified.
 - ii. If no other options were discussed or identified, please explain why not.
 - b. Did Burns & McDonnell or EKPC consider emissions averaging as a compliance option?
 - i. If so, please provide analyses and workpapers (in electronic, machine-readable format) related to the consideration of emissions averaging.
 - ii. If not, why not?
 - c. Did Burns & McDonnell or EKPC consider injecting dry sorbent used at the dry FGD and pumping it directly to Cooper 1's exhaust, ahead of the ESP (effectively creating a DSI system) as a compliance option?
 - i. If so, please provide analyses and workpapers (in electronic, machine-readable format) related to the consideration of that option.
 - ii. If not, why not?
 - d. Did Burns & McDonnell or EKPC consider switching to an alternative type of coal, with different emission properties, as a compliance option?
 - i. If so, please provide analyses and workpapers (in electronic, machine-readable format) related to the consideration of coal switching as a compliance option.
 - ii. If not, why not?
- 1.39. Refer to the Direct Testimony of Block Andrews, page 7, lines 16 and 17, which state, "Andritz is willing to guarantee emissions and performance levels that will meet MATS, and BART compliance limits."
- a. Identify and explain the terms of the "guarantee" provided by Andritz regarding MATS and BART compliance.
 - b. Provide all communications between Andritz and EKPC regarding any "guarantee" made to meet MATS and BART compliance limits.
 - c. State whether Andritz is assuming liability, financial or otherwise, if MATS and BART compliance limits aren't met
 - i. If so, please provide all supporting documentation.
 - ii. If not, explain why not.
- 1.40. Refer to the Direct Testimony of Block Andrews, page 12, lines 8 through 20:
- a. Please provide any and all analyses and workpapers (in electronic, machine-readable format) related to the cost estimations and assumptions.

- b. Please provide all documents and workpapers (in electronic, machine-readable format) related to “equipment costs based on budgetary proposals.”
- 1.41. Refer to the Direct Testimony of Block Andrews, page 13, line 1. Please provide the analyses and workpapers (in electronic, machine-readable format) related to the estimated increase of \$4.45/MWh in variable O&M costs associated with the Project.
- 1.42. Please describe current DSM programs offered by EKPC, including demand-response, interruptible load, and efficiency programs. Please note the customer class and sector, first year or lifetime cost (specify), MW or MWh reductions, expected life, and penetration of these programs.
- 1.43. Please describe proposed DSM programs to be offered by EKPC, including demand-response, interruptible load, and efficiency programs. Please note the customer class and sector, expected first year or lifetime cost (specify), MW or MWh reductions, expected life, and penetration of these programs.
- 1.44. Please state whether existing DSM programs are incorporated into the current case.
a. If so, describe how and provide workpapers showing such.
b. If not, explain why not.
- 1.45. Please state whether proposed DSM programs are incorporated into the current case.
a. If so, describe how and provide workpapers showing such.
b. If not, explain why not.
- 1.46. Identify and produce any DSM potential studies performed by or for EKPC in the last six years, including attendant workbooks or calculations.
a. State whether the results of any such studies are incorporated into the current case.
i. If so, explain how.
ii. If not, explain why not.

- 1.47. Refer to p. 8 of EKPC's 2012 Integrated Resource Plan. With regards to the statement that "EKPC's experience indicates that the financial investment required to successfully implement DSM programs exceeds the investment assumed in the California tests, principally due to promotional costs incurred to derive awareness, education and adoption in the EKPC service territory":
 - a. Identify the specific experience referenced therein
 - b. Identify the percent or amount by which "the financial investment required to successfully implement DSM programs exceeds the investments assumed in the California tests"
 - c. Identify and produce any documents, studies, or analyses upon which that statement is based
 - d. Does EKPC assert that the California tests should not include "promotional costs incurred to derive awareness, education and adoption" of DSM programs? If so, provide the basis for this assertion.
 - e. State whether EKPC has factored this purported additional investment needed to implement DSM programs in the EKPC service territory in comparison to the investment assumed in the California tests into its analysis of the levels of energy savings or peak demand reduction that it can achieve through DSM programs.
 - i. If so, explain how and produce any supporting workpapers (in machine readable format with formulas intact)
 - ii. If not, explain why not.

- 1.48. With regards to EKPC's most recent load forecast:
 - a. Produce such forecast and any supporting analyses, modeling, or workpapers (in machine-readable format with formulas intact) supporting that forecast. Include in the forecast winter peak demand, summer peak demand, and annual energy requirements.
 - b. Identify each specific "government regulation" efficiency provision, including but not limited to any provisions of the Energy Independence and Security Act and the American Recovery and Reinvestment Act, that were accounted for in that load forecast.
 - c. For each such efficiency provision, identify the annual level of energy savings and peak demand reduction that were assumed in the forecast.

- 1.49. Refer to the DSM Report found in Technical Appendix Volume 2 of EKPC's 2012 Integrated Resource Plan.
 - a. State whether EKPC has carried out or reviewed any more recent analyses of the cost, feasibility, or potential for DSM programs since the DSM Report was completed.
 - b. If so, produce all such analyses, along with supporting modeling files and workpapers (in machine readable format with formulas intact)

- 1.50. Refer to p. 5 of the DSM Report found in Technical Appendix Volume 2 of EKPC's 2012 Integrated Resource Plan. Identify the "utilities around the country" and the "best practice DSM programs" referenced therein.

- 1.51. Refer to p. 5 of the DSM Report found in Technical Appendix Volume 2 of EKPC's 2012 Integrated Resource Plan. Identify and produce the "regional studies of energy efficiency opportunities" referenced therein.

- 1.52. Refer to p. 6 of the DSM Report found in Technical Appendix Volume 2 of EKPC's 2012 Integrated Resource Plan. Identify how each of the 113 DSM measures referenced therein scored on each of the four screening criteria.

- 1.53. Refer to p. 8 of the DSM Report found in Technical Appendix Volume 2 of EKPC's 2012 Integrated Resource Plan. With regards to the DSMore modeling referenced therein:
 - a. Produce the DSMore modeling files, include all inputs and outputs, and workpapers (in machine-readable format with formulas intact) for all DSM modeling carried out by or for EKPC
 - b. Identify the assumed value for each of following costs used in the DSMore modeling and specify the unit of its measure (e.g., \$/MWh, \$/MW, \$/ton, etc.):
 - i. Marginal energy cost
 - ii. Marginal generation capacity cost
 - iii. Marginal transmission & distribution capacity cost
 - iv. Fossil fuel cost
 - v. Environmental capacity cost
 - vi. Carbon price
 - vii. SO₂ allowance price
 - viii. NO_x allowance price

- 1.54. Refer to p. 15 of the DSM Report found in Technical Appendix Volume 2 of EKPC's 2012 Integrated Resource Plan.
 - a. Explain the basis for the claim that \$0/MWh is the "likely value placed on carbon dioxide over the 15 year planning period," and produce any analyses or documents supporting that claim
 - b. State whether EKPC still believes that \$0/MWh is the "likely value placed on carbon dioxide" over the next 15 years.
 - i. If so, explain why and produce any analyses or documents supporting that claim.
 - ii. If not, explain why not and identify what value is likely.

- 1.55. Refer to EKPC's response to Staff Initial Request 1b in the 2012 Integrated Resource Plan proceeding.
 - a. Explain why "many EKPC Existing DSM Programs are not currently performing at that theoretical maturity level."
 - b. Produce any analyses or evaluations of the performance of EKPC's existing DSM programs
 - c. Produce any analyses or evaluations of ways to improve the performance of such programs.
 - d. Identify and explain any steps that EKPC has taken or is taking to improve the performance of any of its existing DSM programs.

- 1.56. Refer to page 4 of EKPC's Response to Comments of Intervenor Sierra Club on the 2012 Integrated Resource Plan of EKPC, case 2012-00149, dated February 11, 2013. For each of the states listed at the bottom of the page and for the U.S. Total, provide.
 - a. Average annual residential per-capita electric usage
 - b. The percentage of average annual per capita income that the average annual per-capita electric usage represents, based on average retail residential rates in that state

- 1.57. Refer to page 4 of EKPC's 2012 Integrated Resource Plan and EKPC's response to SC data request 2-1 in the IRP proceeding
 - a. State whether EKPC is still planning to achieve approximately 50 MW of cumulative summer peak demand reduction and 109,008 MWh of cumulative energy savings from non-interruptible DSM programs over the time period of 2013 through 2017.
 - i. If not, identify what levels of peak demand reduction and energy savings EKPC is planning to achieve over the time period of 2013 through 2017
 - ii. If so, explain why those amounts are approximately one-quarter of the 208.3 MW of summer peak demand reduction and 488,043 MWh of energy savings that EKPC's 2012 Integrated Resource Plan reported is cost-effectively achievable through non-interruptible DSM programs through 2017.

- 1.58. Refer to Exhibit JJT-1.
 - a. Please confirm that EKPC stated in the RFP that it would not accept any proposals for demand response resources.
 - b. Please explain why EKPC limited the RFP to supply-side resources and did not accept proposals for demand-side resources.

- 1.59. State whether EKPC has prepared or caused to be prepared any study of the costs to bring Cooper Unit 1 and Cooper Unit 2 (either individually or jointly), or the Dale Station into compliance with the regulatory options being considered in EPA's proposed effluent limitations guidelines.
- a. If so:
 - i. Identify the costs that were identified
 - ii. State whether such costs were factored into the NPV analysis for the Project
 1. If so, explain how
 2. If not, explain why not
 - iii. Produce all such studies
 - b. If not, explain why not
- 1.60. State whether EKPC has prepared or caused to be prepared any study of the costs to bring Cooper Unit 1 and Cooper Unit 2 (either individually or jointly), or the Dale Station into compliance with the regulatory options being considered in EPA's proposed Clean Water Act Section 316(b) rule.
- a. If so:
 - i. Identify the costs that were identified
 - ii. State whether such costs were factored into the NPV analysis for the Project
 1. If so, explain how
 2. If not, explain why not
 - iii. Produce all such studies
- 1.61. State whether EKPC has prepared or caused to be prepared any study of the costs to bring Cooper Unit 1 and Cooper Unit 2 (either individually or jointly), or the Dale Station into compliance with the regulatory options being considered in EPA's proposed Coal Combustion Residuals rule.
- a. If so:
 - i. Identify the costs that were identified
 - ii. State whether such costs were factored into the NPV analysis for the Project
 1. If so, explain how
 2. If not, explain why not
 - iii. Produce all such studies
 - b. If not, explain why not
- 1.62. State whether EKPC has prepared or caused to be prepared any study of the costs to bring Cooper Unit 1 and Cooper Unit 2 (either individually or jointly), or the Dale Station into compliance with any potential new source performance standards for greenhouse gases for existing power plants under the Clean Air Act.
- a. If so:
 - i. Identify the costs that were identified
 - ii. State whether such costs were factored into the NPV analysis for the Project

1. If so, explain how
 2. If not, explain why not
 - iii. Produce all such studies
- b. If not, explain why not

Respectfully submitted,

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Dated: October 4, 2013

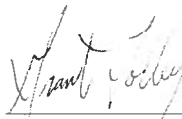
CERTIFICATE OF SERVICE

I certify that I had filed with the Commission and served via U.S. Mail and electronic mail the foregoing Initial Requests for Information to East Kentucky Power Cooperative on October 4, 2013 to the following:

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