

September 26, 2014

**Via Personal Delivery**

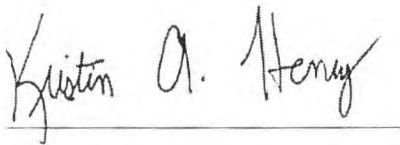
Mr. Jeff Derouen, Executive Director  
Case No. 2014-00166  
Kentucky Public Service Commission  
211 Sower Blvd.  
Frankfort, KY 40601

Re: Case No. 2014-00166 Sierra Club's Supplemental Requests for Information to  
Big Rivers Electric Corporation

Dear Mr. Derouen,

Enclosed, please find one original and ten (10) copies of Ben Taylor and Sierra Club's Supplemental Requests for Information to Big Rivers Electric Corporation, filed today in the above-referenced matter via personal delivery. By copy of this letter, all parties listed on the Certificate of Service have been served via United States mail and e-mail.

Sincerely,



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Senior Attorney  
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COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF: THE 2014 INTEGRATED ) Case No. 2014-00166  
RESOURCE PLAN OF BIG RIVERS ELECTRIC )  
CORPORATION )

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**BEN TAYLOR AND SIERRA CLUB'S SUPPLEMENTAL REQUESTS FOR  
INFORMATION TO BIG RIVERS ELECTRIC CORPORATION**

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Intervenors Ben Taylor and Sierra Club (collectively "Environmental Intervenors") pursuant to the Kentucky Public Service Commission's ("Commission") June 13 and June 30, 2014 Orders, propound the following supplemental requests for information on the Big Rivers Electric Corporation's ("Big Rivers" or "BREC") filing in the above captioned proceeding.

Big Rivers shall answer these requests for information in the manner set forth in the June 13 Order and by no later than the October 15, 2014 deadline set forth in the Appendix of the June 30 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,” “Big Rivers,” “BREC,” or “Company” refers to Big Rivers Electric Corporation, 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.

“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.

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

“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.

“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.

### **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.

### **REQUESTS FOR INFORMATION**

- 1) Refer to Big Rivers’ response to KIUC 2-32, which is referenced in your response to SC 1-1(a), (b), and (g).
  - a) Explain the “informed judgment” upon which the forecasted replacement load included in the IRP is based
  - b) Identify and produce all studies, analyses, or other documents upon which that “informed judgment” is based.
  - c) Detail the “information available . . . at the time” upon which Big Rivers’ management determined that its replacement load forecast was a “reasonable expectation”

- 2) Refer to Big Rivers' response to SC 1-1(g). Explain why Big Rivers' historical load factor is "irrelevant to future replacement load."
- 3) Refer to Big Rivers' response to PSC 1-9, which is referenced in your response to SC 1-2.
  - a) Explain the basis for your contention that Big Rivers' projection of an approximately 800% increase in replacement load between 2016 and 2021 is "realistic, but conservative."
  - b) Explain the basis for your contention that "[t]he power market was projected to begin increasing in 2016," and:
    - i) Identify who made such projection
    - ii) Identify the assumptions upon which that projection was based
    - iii) Produce all studies, analyses, or other documents supporting such projection.
- 4) Refer to Big Rivers' response to SC 1-3(c). Identify the basis for your contention that the assumption regarding holding industrial sales constant in the forecast "has thus far proved accurate," and produce any documents supporting that contention.
- 5) Refer to the Summary of Nebraska PPAs produced as an Attachment to Big Rivers' response to SC 1-7(a).
  - a) Explain the basis for the estimated "average aggregate quantities" to be supplied that are identified in the last paragraph on page 1 of the Summary, and how those quantities were calculated

- b) Produce the Big Rivers analysis of estimated rates to be paid by the Nebraska entities identified in the last paragraph on page 3 of the Summary, and any documentation or workpapers for such analysis.
    - i) If such analysis does not exist in written form, describe the analysis and its results in detail.
  - c) Produce the ACES analysis of NPPD's projected rates identified in the last paragraph on page 3 of the Summary, and any documentation or workpapers for such analysis.
    - i) If such analysis does not exist in written form, describe the analysis and its results in detail.
  - d) Produce the Big Rivers "analyses of the cost-effectiveness of this sale" identified in the last paragraph on page 3 of the Summary, and any documentation or workpapers for such analysis.
    - i) If such analyses do not exist in written form, describe the analyses and their results in detail.
- 6) Refer to Big Rivers' response to AG 1-13, which is referenced in your response to SC 1-9.
- a) Identify each of the "more than 10 RFPs since January 2014" that Big Rivers has responded to.
  - b) For each such RFP, identify:
    - i) The amount of capacity and/or energy requested or proposed in the RFP
    - ii) The timeframe for which such capacity and/or energy was sought in the RFP
    - iii) The price for energy and/or capacity offered by Big Rivers in response to the RFP
    - iv) The status of Big Rivers' response to the RFP.
  - c) Identify each entity that Big Rivers has "spent significant amount of time working with"



- d) For each such entity, identify:
  - i) The amount of capacity and/or energy at issue in Big Rivers' work with such entity
  - ii) The timeframe for which such capacity and/or energy is being proposed
  - iii) The price for energy and/or capacity being offered by Big Rivers
  - iv) The status of Big Rivers' work with such entity
  - v) Any capacity and/or energy purchase that has been entered into by the entity and Big Rivers
- 7) Refer to Big Rivers' response to AG 1-19.
  - a) Explain the basis for your contention that, over the long term, the increase in electric prices will be equal to inflation.
  - b) Produce any studies, analyses, or other documents supporting the contention that, over the long term, the increase in electric prices will be equal to inflation.
- 8) Refer to Big Rivers' response to SC 1-21(d) and (e).
  - a) Confirm whether the cost of installing ACI and DSI on the Coleman Station is included in the IRP Base Case.
    - i) If not, explain why not.
  - b) Identify the estimated variable operating cost, in \$/MWh, of operating DSI on the Wilson Station.
- 9) Refer to Big Rivers' response to SC 1-23
  - a) State whether Big River has analyzed or estimated its projected carbon emissions beyond 2019.
    - i) If so, produce such analysis or estimate.
    - ii) If not, explain why not.

- b) State whether Big Rivers has analyzed or evaluated its potential options for complying with the carbon standards proposed in the U.S. EPA's Clean Power Plan released in draft form on June 2, 2014.
    - i) If so,
      - (1) explain the results of such analysis or evaluation
      - (2) Produce any documentation of such analysis or evaluation
    - ii) If not, explain why not
  - c) State whether Big Rivers has evaluated any of the following as options for reducing carbon emissions and/or complying with potential future carbon regulations:
    - i) Coal unit efficiency upgrades
    - ii) Coal unit retirements
    - iii) Purchase of renewable energy
    - iv) Construction or acquisition of renewable energy capacity
    - v) Purchase of renewable energy credits
    - vi) Purchase of carbon offsets
    - vii) Increased demand side management, including energy efficiency and/or demand response
  - d) If the answer to any of the subparts in subsection c is "yes," explain the results of such analysis and produce any documentation.
  - e) If the answer to any of the subparts in subsection c is "no," explain why not
- 10) Refer to Big Rivers' response to SC 1-25(b).
- a) Explain the differences between the three PCM model runs referenced therein.

- b) Explain how the results of the PCM model runs referenced therein differ from the results of PCM model runs in which the Green units continue to operate on coal.
- c) Based on these PCM model runs and any other analyses performed by the Company, identify your current projection of the net present value revenue requirement, or other measure of the cost impact, of converting the Green units to natural gas versus continuing to operate those units on coal?
- d) Explain any other conclusions about the Green units which Big Rivers has drawn from the PCM model runs referenced therein

11) Refer to Table 10.3 on page 109 of the IRP and your response to SC 1-26.

- a) State whether Big Rivers assigned probabilities to each or any of the 17 sensitivity analyses that it carried out.
  - i) If so, identify the probability assigned to each sensitivity
  - ii) If not, explain why not.

12) Refer to pages 103 to 106 of the IRP. With regards to the base case and 17 sensitivity cases that you modeled in Strategist:

- a) State whether retirement of any Big Rivers generating unit was allowed to be considered by the Strategist model
  - i) If so, identify in which cases such option was allowed to be considered
  - ii) If not, explain why not
- b) State whether additional demand side management beyond the DSM programs included in the \$1 million annual energy efficiency expenditure case was allowed to be considered by the Strategist model
  - i) If so, identify in which cases such option was allowed to be considered

ii) If not, explain why not

13) Refer to Big Rivers' response to SC 1-28.

- a) For each of Big Rivers' coal-fired generating units, identify the types of coal, and the percentage of the total for each type of coal, that you plan to burn in each of the years of the IRP.
- b) Identify which of the coal price projections included in the spreadsheet you produced as an attachment to your response to SC 1-28 you used to "determine an annual percent increase to calculate years 2018 through 2028."

14) Refer to Big Rivers' response to SC 1-31(b).

- a) State whether the Wood Mackenzie long term outlook equilibrium prices forecast incorporates a cost for the regulation of carbon emissions.
  - i) If so, identify the assumed carbon price for each of year of the forecast.

15) Refer to Big Rivers' response to SC 1-33.

- a) Identify the date of Big Rivers' most recent long-term financial forecast that runs through at least the year 2026, and produce such forecast.
- b) Explain why Big Rivers' most recent long-term financial forecast is available only through the year 2017.
- c) Identify the date of the most recent Big Rivers long-term financial forecast that goes beyond the year 2017, and produce such forecast.

16) Refer to Big Rivers' response to SC 1-37.

- a) Explain how Big Rivers decided to model in its DSM Potential Study a \$2 million per year DSM incentives budget.

- b) Prior to modeling the \$2 million DSM incentives budget scenario, was the scenario determined to be technically feasible?
  - i) If yes, please explain why Big Rivers is choosing to not pursue a plan that is both technically feasible and provides greater benefits to ratepayers.
  - ii) If no,
    - (1) Explain why the plan was determined to be technically infeasible and provide any supporting documents in machine readable format with formulas intact.
    - (2) Explain why Big Rivers chose to perform modeling of technically infeasible plans.
- c) Explain how the annual incentive budget amounts identified in the Attachment to your response to SC 1-37 were derived, and produce any modeling files, workpapers, or other documents used to derive those amounts.

17) Refer to Big Rivers' response to SC 1-42

- a) Please provide a correlation matrix showing the correlation between each pair of the following list of variables: coal price, natural gas price, carbon price, demand, and energy market price.
- b) Please provide all documents and analyses used to develop the correlation matrix.
- c) For each of the high and low carbon cost cases, identify what level of variation from the base case load forecast was assumed, explain the basis for that assumption, and produce all analyses and documents supporting such assumption.
- d) For each of the high and low carbon cost cases, identify what level of variation from the base case energy forecast was assumed, explain the basis for that assumption, and produce all analyses and documents supporting such assumption.

- e) For each of the high and low carbon cost cases, identify what level of premium was placed on market energy prices, explain the basis for that level of premium, and produce all analyses and documents supporting such level of premium.

18) Refer to Big Rivers' response to SC 1-38

- a) Please provide all supporting documents to how Big Rivers determined costs to be avoidable or non-avoidable.
- b) Please provide a forecast of all avoidable and non-avoidable transmission and distribution expenditures over the IRP planning period

19) Please refer to Big Rivers' response to SC 1-8 in this proceeding and to SC 1-10 in case 2013 - 00199.

- a) Please confirm that SC 1-10 in case 2013 – 00199 only identifies 22.3 MW in total.
- b) Please confirm that the Big Rivers IRP, page 22 identifies 25 MW of growth in native load.
- c) Please explain the discrepancy in the two values of new native load identified in subsections a and b of this question.
- d) For each of the loads identified in SC 1-10 and for the additional 2.7 MW in the IPR identify:
  - i) The type of addition.
  - ii) The amount of load.
  - iii) The load factor.
  - iv) The date by which such additional load came online or is coming online.
  - v) The amount of energy expected to be sold to such customers.

20) Refer to Big Rivers' response to AG 1-12.

- a) Identify any entity with which Big Rivers has discussed in 2014 the potential sale or lease of the Coleman plant.
- b) For each such entity, explain the status of such discussions.
- c) State whether Big Rivers performed any modeling that included the sale or lease of the Coleman plant
  - i) If no, why not?

21) Refer to Big Rivers' response to AG 1-12.

- a) Identify any entity with which Big Rivers has discussed in 2014 the potential sale or lease of the Wilson plant.
- b) For each such entity, explain the status of such discussions.
- c) State whether Big Rivers performed any modeling that included the sale or lease of the Wilson plant
  - i) If no, why not?

Respectfully submitted,



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Dated: September 26, 2014




**CERTIFICATE OF SERVICE**

I certify that I served a copy of Ben Taylor and Sierra Club’s Supplemental Request for Information from Big Rivers Electric Corporation by e-mail and first class mail on September 26, 2014 to the following:

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