

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

ELECTRONIC 2023 INTEGRATED )  
RESOURCE PLANNING REPORT OF )  
BIG RIVERS ELECTRIC CORPORATION )

Case No. 2023-00310

**ATTORNEY GENERAL’S SUPPLEMENTAL DATA REQUESTS**

The intervenor, the Attorney General of the Commonwealth of Kentucky, through his Office of Rate Intervention [“OAG”], hereby submits the following Supplemental Data Requests to Big Rivers Electric Corporation [“BREC,” or “the Company”] to be answered by the date specified in the Commission’s Orders of Procedure, and in accord with the following:

- (1) In each case where a request seeks data provided in response to a staff request, reference to the appropriate request item will be deemed a satisfactory response.
- (2) Identify the witness who will be prepared to answer questions concerning each request.
- (3) Repeat the question to which each response is intended to refer. The OAG can provide counsel for BREC with an electronic version of these questions in native format, upon request.
- (4) These requests shall be deemed continuing so as to require further and supplemental responses if the Companies receive or generate additional information within the scope of these requests between the time of the response and the time of any hearing conducted hereon.
- (5) Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association, be accompanied by a signed certification of the preparer or person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person’s knowledge, information, and belief formed after a reasonable inquiry.

(6) If you believe any request appears confusing, request clarification directly from Counsel for OAG.

(7) To the extent that the specific document, workpaper or information as requested does not exist, but a similar document, workpaper or information does exist, provide the similar document, workpaper, or information.

(8) To the extent that any request may be answered by way of a computer printout, identify each variable contained in the printout which would not be self-evident to a person not familiar with the printout.

(9) If the Companies have objections to any request on the grounds that the requested information is proprietary in nature, or for any other reason, notify OAG as soon as possible.

(10) As used herein, the words “document” or “documents” are to be construed broadly and shall mean the original of the same (and all non-identical copies or drafts thereof) and if the original is not available, the best copy available. These terms shall include all information recorded in any written, graphic or other tangible form and shall include, without limiting the generality of the foregoing, all reports; memoranda; books or notebooks; written or recorded statements, interviews, affidavits and depositions; all letters or correspondence; telegrams, cables and telex messages; contracts, leases, insurance policies or other agreements; warnings and caution/hazard notices or labels; mechanical and electronic recordings and all information so stored, or transcripts of such recordings; calendars, appointment books, schedules, agendas and diary entries; notes or memoranda of conversations (telephonic or otherwise), meetings or conferences; legal pleadings and transcripts of legal proceedings; maps, models, charts, diagrams, graphs and other demonstrative materials; financial statements, annual reports, balance sheets and other accounting records; quotations or offers;

bulletins, newsletters, pamphlets, brochures and all other similar publications; summaries or compilations of data; deeds, titles, or other instruments of ownership; blueprints and specifications; manuals, guidelines, regulations, procedures, policies and instructional materials of any type; photographs or pictures, film, microfilm and microfiche; videotapes; articles; announcements and notices of any type; surveys, studies, evaluations, tests and all research and development (R&D) materials; newspaper clippings and press releases; time cards, employee schedules or rosters, and other payroll records; cancelled checks, invoices, bills and receipts; and writings of any kind and all other tangible things upon which any handwriting, typing, printing, drawings, representations, graphic matter, magnetic or electrical impulses, or other forms of communication are recorded or produced, including audio and video recordings, computer stored information (whether or not in printout form), computer-readable media or other electronically maintained or transmitted information regardless of the media or format in which they are stored, and all other rough drafts, revised drafts (including all handwritten notes or other marks on the same) and copies of documents as hereinbefore defined by whatever means made.

(11) For any document withheld on the basis of privilege, state the following: date; author; addressee; indicated or blind copies; all persons to whom distributed, shown, or explained; and, the nature and legal basis for the privilege asserted.

(12) In the event any document called for has been destroyed or transferred beyond the control of the Companies, state: the identity of the person by whom it was destroyed or transferred, and the person authorizing the destruction or transfer; the time, place, and method of destruction or transfer; and, the reason(s) for its destruction or transfer. If destroyed or disposed of by operation of a retention policy, state the retention policy.

(13) Provide written responses, together with any and all exhibits pertaining thereto, in one or more bound electronic volumes, separately indexed and tabbed by each response, in compliance with Kentucky Public Service Commission Regulations and Orders.

(14) Definitions:

a. “And” and “or” should be considered to be both conjunctive and disjunctive, unless specifically stated otherwise.

b. “Each” and “any” should be considered to be both singular and plural, unless specifically stated otherwise.

c. “LSE” means Load Serving Entity.

d. “NGCC” means Natural Gas Combined Cycle.

e. “SCCT” means Simple Cycle Combustion Turbine.

f. “CCS” means Carbon Capture and Sequestration.

g. “RTO” means Regional Transmission Organization.

h. “EV” means Electric Vehicle.

i. “PPA” means Purchased Power Agreement.

j. “NREL” means National Renewable Energy Laboratory.

k. “LCOE” means Levelized Cost of Energy.

l. “MISO” means Midcontinent Independent System Operator.

Respectfully submitted,

RUSSELL COLEMAN  
ATTORNEY GENERAL



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***Certificate of Service***

Pursuant to the Commission's Orders in Case No. 2020-00085, and in accord with all other applicable law, Counsel certifies that an electronic copy of the forgoing was served and filed by e-mail to the parties of record.

This 26<sup>th</sup> day of January, 2024



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Assistant Attorney General

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Electronic 2023 Integrated Resource Planning Report of Big Rivers Electric  
Company  
Case No.2023-00310  
Attorney General's Supplemental Data Requests

1. Please provide separately tabbed responses to each and every data request, as required per Commission rules. Responses to initial data requests were not so tabbed.
2. Reference the response to AG-DR-1-14.
  - a. Explain how the sequestration portion of the CCS project would be accomplished, and the specific location where captured carbon would be sequestered.
  - b. Explain whether the Company has identified any potential obstacles to obtaining the 45Q tax credits over the life of the CCS project.
  - c. Has BREC explored whether there may be a market for the carbon sequestered from the Wilson plant?
  - d. Does BREC foresee any potential for a CO<sub>2</sub> pipeline being constructed in the region through which the Company could sequester the CO<sub>2</sub> captured from Wilson?
  - e. Explain whether the power needed for the operation of both carbon capture and sequestration equipment would represent parasitic load on the Wilson plant. If not, why not? Include in your response whether any such parasitic load would represent costs to the member-owners, and if not, why not.
  - f. Regarding the Company's response to subpart e., above, explain how any such parasitic load / costs would affect the ability of Wilson to compete against other generating units in the MISO footprint. Does BREC agree that:
    - (i) additional costs attributed to Wilson would affect the unit's MISO economic dispatch rank;
    - (ii) any such diminished economic dispatch rank could reduce revenues the unit earns in MISO, and thus would represent a cost to the member-owners; and
    - (iii) based on the response to AG-DR-1-24, a lower average MISO dispatch level could contribute to a higher heat rate, which also would constitute a cost driver for the member-owners?
3. Reference IRP Report Table 4.3 (a), and the response to AG-DR-1-20. Provide the reason(s) for the 2027 drop in projected non-member sales.

Electronic 2023 Integrated Resource Planning Report of Big Rivers Electric  
Company  
Case No.2023-00310  
Attorney General's Supplemental Data Requests

- a. Explain also why no projection for non-member sales is provided beyond 2028.
4. Reference the response to AG-DR-1-25, which states that an attachment is provided. As no such attachment could be located, please provide the attachment. The Attorney General reserves the right to pose a follow-up data request based on this missing attachment.
5. Reference: (i) IRP § 7.1.6; (ii) IRP Table 7.4.1 (a); and (iii) the response to PSC-DR-1-51. Confirm that due to MISO's new FERC-approved Seasonal Planning Reserve Margin Requirements, BREC [REDACTED] that will begin to manifest itself in the [REDACTED]. Provide a comprehensive explanation of all steps BREC is initiating to [REDACTED].
  - a. Referring to the confidential version of Table 7.4.1 (a), explain why the [REDACTED] has its [REDACTED].
  - b. Will other MISO LSEs also be facing [REDACTED] during the same periods? If so, describe the impact BREC anticipates on capacity prices during those periods.
  - c. Explain whether the Company believes the [REDACTED] will or could trigger the need to file for a base rate increase.
6. Given the significant increase in seasonal primary reserves MISO is now requiring, explain whether BREC believes it would be prudent to re-examine its membership in MISO. Include in your explanation whether the Company will conduct new cost-benefit analyses as a result of this new requirement.
7. Provide the net capacity factor for all of the Company's renewable energy facilities, whether self-owned or from which the Company obtains power via a PPA, from their inception through the most recent date available.
8. Provide the winter-time capacity factor (net for the months December – February) for all of the Company's renewable energy facilities, whether self-owned or from which the Company obtains power via a PPA, from their inception through the most recent date available.
9. For all renewable energy projects not yet completed, provide the projected capacity factor for each month once the project becomes commercially operable.



Electronic 2023 Integrated Resource Planning Report of Big Rivers Electric  
Company  
Case No.2023-00310  
Attorney General's Supplemental Data Requests

10. Provide the winter-time capacity factor (net for the months December – February) for the Wilson, Reid and Green units for each of the past ten years.
11. Confirm that generating resources powered by fossil fuels provide the most reliable source of generation in comparison to alternative generating sources, excluding nuclear sources.
12. Discuss BREC's history with respect to reliably serving its customers, and provide a breakdown of the types of generating resources (fuel source category) that were used to provide that reliability. Explain also whether the Company has ever had to institute rolling blackouts.
13. Reference the response to AG-DR-1-5. Given that "wind is not economically feasible due to intermittent operation in Big Rivers' service territory and risk of congestion cost outside of MISO zone 6," provide a cost estimate for serving 100% of BREC's load with solar resources.
14. Given that solar resources are intermittent by nature, discuss the reliability impacts that would be experienced if BREC were to serve its load with 100% solar resources.
15. Confirm that, in order to reliably serve BREC's load with 100% renewable resources, BREC would be required to invest in renewable resources to be available to serve load in real time, battery resources to store energy for use when intermittent resources were unavailable and during periods of renewable underperformance, and separate renewable generating resources available to charge those batteries while the other generating resources were being used to serve load. If not confirmed, explain the response in detail.
16. Confirm that the commercially available and scalable energy storage device in service today is a 4-hour battery. Discuss how many layers of 4-hour batteries would be needed in order to serve load during the night if BREC operated utilizing renewables only, accounting for foreseeable periods of renewable underperformance which will certainly occur. If not confirmed, explain the response in detail.
17. Discuss the performance of solar assets and renewable assets generally during winter storms.
  - a. Discuss how this performance impacts the investments that would be needed if BREC intended to utilize 100% renewable generation sources.

- b. Explain also the capacity factor BREC ascribes to solar facilities during winter-time (December through February).
18. Discuss whether, even assuming transmission upgrades could be timely and economically achieved, BREC views reliance on out-of-state generating resources as a sound long-term generating plan.
19. Discuss the benefits to BREC and its customers of owning its own generating assets and operating those within its territory.
20. If, based on BREC's responses to the foregoing: (i) BREC historically has been able to provide reliable electric service utilizing primarily fossil fuel powered resources, and (ii) it is currently technically and/or economically unreasonable to generate 100% of electricity needed to serve BREC's customers using renewable resources, confirm that as a utility moves along a spectrum from 100% fossil fuel-powered, dispatchable resources to 100% intermittent, renewable resources, the system necessarily becomes less reliable. If not confirmed, explain the response in detail.
  - a. If BREC's position is that some amount of renewable generation can be incorporated without reliability impacts, identify that amount and discuss reliability impacts between that value and 100% renewable resource based generation.
21. Explain whether the Company receives any financial incentives to keep the Wilson plant operating.
22. Explain whether BREC's planning for a future NGCC unit is focusing on a J or H class unit. If so, provide a discussion regarding the load-following capabilities of such a unit, and what that capability would do for BREC. Include in your discussion whether such a unit could perform ancillary services such as ramping, and whether such services could be marketed to MISO.