



Southern Renewable Energy Association
11610 Pleasant Ridge Rd., Suite 103 #176, Little Rock, AR 72223

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BIG RIVERS ELECTRIC CORPORATION 2020 INTEGRATED RESOURCE

PLAN

DOCKET #2020-00299

COMMENTS OF THE SOUTHERN RENEWABLE ENERGY ASSOCIATION

January 31, 2022

The Southern Renewable Energy Association (SREA) is an industry-led initiative that promotes the use and development of renewable energy in the south. Since 2013, SREA has engaged in IRP processes in Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Tennessee and Virginia. We strive to provide the most up-to-date and publicly available market information regarding renewable energy resource availability, pricing, performance and forecasting. SREA appreciates the opportunity to comment on the Big Rivers Electric Corporation's (BREC) 2020 Integrated Resource Plan (IRP). SREA did not intervene in this docket, and is not a party. In accordance with 807 KAR 5:001 Section 4.11 we submit the following public comment for incorporation in the proceeding.

BREC cited the significant growth of renewable energy resources across the country and stated, "The transition from baseload coal resources to solar and other renewables is evident across the country. Additionally, prices for renewables remain favorable as described by Silvio Marcacci's article, 'Renewable Energy Prices Hit Record Lows: How can Utilities Benefit from Unstoppable Solar And Wind' on Forbes' website in January of 2020. This article

describes the growth of solar despite federal tax incentives phasing out. Mr. Marcacci describes renewable energy as *unstoppable, based on economics*, and he states that *smart utility policy design will include the economic opportunity that renewables bring*. This article describes the cost of renewables falling to date.”¹ (emphasis added) BREC is in the process of contracting with three separate solar facilities for a total of 260 MW as power purchase agreements (PPAs).

Similar to its 2017 IRP, BREC effectively excluded all potential additions of new renewable energy resources and energy storage resources in this 20-year IRP, beyond the already announced PPAs. Regarding wind energy and energy storage resources, BREC stated, “Big Rivers did not include every option listed in the EIA report in the 2020 IRP modeling process. Many of the new generation options could be dismissed without analysis for varying reasons. ...Battery Storage options were dismissed due to their high costs. Onshore Wind was not considered due to the lack of viable locations for wind energy to be built in northwestern Kentucky.”² BREC also prohibited its models from selecting any new solar resources, beyond the already announced 260 MW, stating, “At the base case inputs and the current proposed solar PPA costs, *the model would continue to add solar until reserve margins were met*. Big Rivers chose to limit the model’s flexibility to add additional solar beyond the proposed facilities...” (emphasis added) Instead of adding additional renewable energy resources, BREC’s Action Plan includes adding a new Natural Gas Combined Cycle (NGCC) resource in the 2024-2026 timeframe. BREC’s current IRP is unacceptable and needs substantial improvement.

¹ IRP Pg. 93

² IRP Pg. 147

The BREC IRP is a classic example of developing conclusions, and then creating an analysis to justify already pre-determined conclusions. BREC effectively prohibited its IRP model from adding any new renewable resources. The Kentucky PSC staff noted this discrepancy and asked in their First Request for Information why more solar resources were not considered. BREC responded that a “portfolio with 100% solar generation would expose Big Rivers Member/Owners to significant market risk for capacity and energy.”³ IRP Figure 8.6 shows that the 260 MW of new solar additions would lead to BREC receiving just 13% of total generation from solar resources; well below the 100% solar portfolio that BREC appears to be concerned about. BREC noted that, “**Because of solar capacity’s low cost, the Big Rivers long-term model would choose nothing but solar unless limited.**”⁴ (emphasis added) As such, any plan that excludes additional solar resources is a higher-cost plan than BREC has presented in its IRP.

BREC excluded wind energy resources from analysis. BREC cites a single 100 MW wind farm in the MISO generation interconnection queue in its territory as an explanation that, “The market is saying that there are currently better choices than wind in western Kentucky.”⁵ SREA will note that BREC does not have a need for many multiple renewable energy projects, and a single 100 MW project would provide a significant amount of energy. BREC’s explanation that it excluded wind resources because there are few wind resources in the Kentucky MISO queue is a self-fulfilling prophecy. Renewable development companies prospect projects in

³ https://psc.ky.gov/pscecf/2020-00299/roger.hickman%40bigrivers.com/03192021071542/Big_Rivers_Responses_to_Commission_Staffs_First_IRs.pdf

⁴ https://psc.ky.gov/pscecf/2020-00299/roger.hickman%40bigrivers.com/05112021030604/BR_Rsps_to_Commission_Staffs_2nd_Request_for_Information.pdf

⁵ https://psc.ky.gov/pscecf/2020-00299/roger.hickman%40bigrivers.com/05112021030604/BR_Rsps_to_Commission_Staffs_2nd_Request_for_Information.pdf

areas that they think may lead to a successful project; however, with BREC's opposition to even evaluating any wind energy resources in this and previous IRPs has sent a clear message to developers that such development is risky. Subsequently, the 100 MW wind project BREC cited was withdrawn from the MISO queue on November 30, 2021. Further, because BREC is part of the MISO system, the company should have included wind energy imports as a selectable option for its models.

The MISO queue in Kentucky contains 3,499 MW of solar resources, 300 MW of battery storage resources, and 241 MW of hybrid resources.⁶ Still, even with significant battery and hybrid resource interest, BREC did not evaluate those resources in this IRP. Finally, there are no new fossil generation units currently in the MISO queue in Kentucky, which applying BREC's own standard for excluding resources, would clearly show that "there are currently better choices" than natural gas.⁷

BREC's analysis on capacity accreditation places its ratepayers and members at risk of higher costs and/or less reliable power. For example, BREC wrongly assumes existing and new fossil units would achieve stable accreditation in the MISO market, even though MISO has consistently noted that older generation becomes less reliable over time, and a new seasonal capacity accreditation methodology is necessary due to increased outages during wintertime from fossil units. BREC applies an effective load carrying capacity (ELCC) methodology as a sensitivity ("Solar Firm Capacity at ELCC"⁸), which led to a bizarre result of adding 130 MW of new NGCC resources, instead of adding more solar to replace the reduced solar capacity

⁶ https://www.misoenergy.org/planning/generator-interconnection/GI_Queue/gi-interactive-queue/

⁷ https://www.misoenergy.org/planning/generator-interconnection/GI_Queue/gi-interactive-queue/

⁸ https://psc.ky.gov/pscecf/2020-00299/tyson.kamuf%40bigrivers.com/12282021033656/2021-12-28_Big_Rivers_Response_to_Staffs_Post-Hearing_IRs.pdf

(and as BREC noted, the model would naturally select solar, without artificial limits). Again, because BREC excluded energy storage resources, the company ignores a clear opportunity to add firm capacity resources.

BREC filed cost and performance data relating to solar, wind and energy storage resources from the Energy Information Administration (EIA) as Appendix F. BREC noted that it did not include energy storage, nor wind energy resources in its analysis, citing “high costs” despite not providing a levelized cost of energy (LCOE) analysis. The EIA data provided by BREC are not forecasts, nor do they provide the most updated renewable energy pricing available to BREC. BREC intentionally excluded EIA data regarding converting the Green coal-fired units to gas, citing its own internal data as “closer than the EIA projections.” It appears that BREC excluded wind, excluded solar, excluded energy storage and then substituted the EIA cost data for natural gas units with its own internal data; as such, it is unclear what BREC used EIA data for.

BREC’s current IRP does not adequately evaluate renewable energy nor energy storage resources. By excluding viable resources, BREC cannot definitively prove that its IRP results in lowest possible cost planning. SREA requests that BREC incorporate our recommendations regarding renewable energy metrics and re-run analyses. SREA recommends that BREC issue an RFP for renewable energy resources to collect real-world, directly relevant information for its planning purposes and potentially identify projects for procurement.