COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC TARIFF FILING OF BIG RIVERS ELECTRIC CORPORATION AND KENERGY CORP. TO IMPLEMENT A NEW STANDBY SERVICE TARIFF	**)** **)** **)** **)**	**Case No. 2021-00289**

REBUTTAL TESTIMONY OF JOHN WOLFRAM

I. INTRODUCTION

Q. Please state your name, business address, and position.

A. My name is John Wolfram. I am the Principal of Catalyst Consulting LLC. My business address is 3308 Haddon Road, Louisville, Kentucky, 40241.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of Big Rivers Electric Corporation ("Big Rivers").

Q. Are you the same John Wolfram that provided direct testimony in this proceeding?

A. Yes.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to respond to the Direct Testimony of Mr. Justin Bieber ("Bieber Direct") on behalf of the Kimberly-Clark Corporation ("Kimberly-Clark"). Specifically, I will explain why Kimberly-Clark's claims regarding the amount of and cost of capacity required for standby service, the consideration of marginal vs. embedded

costs, and the merits of the QFS tariff are incorrect and should be rejected, and why the LICSS rate filed by Big Rivers in this proceeding is reasonable and should be accepted by the Commission.

II. REBUTTAL

Q. How do you use the terms "fixed," "incremental," "marginal" and "embedded" in your testimony?

A. My understanding of the terms used in the Bieber Direct and in my testimony is as follows: "Fixed" and "incremental" are terms generally related to the costs that Big Rivers incurs. Fixed costs are those costs incurred by Big Rivers that do not vary with usage or with the consumption of a particular customer (*e.g.*, the cost of a power plant or a transmission line). Incremental costs are the change in costs incurred by Big Rivers in order to meet a change in demand. "Marginal" and "embedded" are terms generally related to ratemaking. Marginal cost is a method of setting rates based on the incremental cost and the incremental usage related to a particular change in demand. Embedded cost is a method of setting rates based on total costs and total usage (*e.g.*, the broad averaging approach for setting rates for utility rate classes in traditional rate filings, using total class costs and total class usage).

A. Amount of Capacity Required

Q. In Bieber Direct, page 7, lines 136-139, Kimberly-Clark claims that Big Rivers "will not incur <u>any</u> capacity costs to provide Maintenance Service" (emphasis added). Is this claim correct?

A. No. While Big Rivers will not incur any incremental costs to provide Maintenance Service, there is still a cost associated with the capacity provided by Big Rivers to standby customers. Essentially the standby customer taking Maintenance Service is using the capacity reserved for other Big Rivers customers at times when those customers aren't using it, since Big Rivers does not have capacity set aside for the standby customer's amount of self-supply. (Recall that the Self-Supply Capacity of the standby customer reduces the amount of MISO-accredited capacity which Big Rivers would otherwise need to provide; the standby customer self-supplied demand is <u>not</u> included in the MISO-accredited capacity that Big Rivers procures from MISO.[1]) Absent any compensation from standby customers, that capacity is paid for by Big Rivers' other customers, and if standby customers use it without compensating Big Rivers for it, they act as "free riders" of Big Rivers' capacity, or in other words they are being subsidized by Big Rivers' other customers.

Q. Is the same true for Backup Power Service?

A. Yes. Big Rivers does not procure capacity from MISO for the standby customer's Self-Supply Capacity, and thus does not have capacity set aside for use by the standby customer in the event of an unplanned outage of the standby customer's power plant.

[1] Joint Response to Commission Staff's First Request for Information Dated August 18, 2021, submitted September 3, 2021, Item 2, lines 6-9, Witness Mark J. Eacret.

Q. Does Big Rivers agree with the approach suggested by Kimberly-Clark?

A. No. Kimberly-Clark asserts that the LICSS tariff rates should be based on Big Rivers' cost to provide that service (Bieber Direct, p. 10). However, they focus on only incremental costs incurred when Kimberly-Clark actually calls for Maintenance or Backup service. They ignore the fixed costs which Big Rivers incurs so that Maintenance and Backup service are available when needed.

Q. What are some examples of these fixed costs?

A. One example is transmission. The Big Rivers transmission system was built to provide Kimberly-Clark with full requirements service, whether their generator is running or not. The carrying cost of that investment and the costs of maintaining that system are the same regardless of the operation of the Kimberly-Clark generator. Under Mr. Bieber's proposal, Big Rivers' other members would pay to finance, depreciate, operate and maintain the transmission system so that it will be available in those few instances when Kimberly-Clark needs it. In addition to the network transmission system, there are also transmission assets (poles, conductor, and etc.) that were constructed to directly serve the Newman Substation from which Kimberly Clark is served. It is not appropriate to burden all other customers excluding Kimberly Clark with the cost of transmission facilities for which Kimberly Clark directly benefits.

Q. Are there other examples of fixed costs which are required to provide Maintenance and Backup Power Service?

A. Yes. For nearly half a century, Big Rivers has been building, financing and operating generation on behalf of its members. Because of changing environmental regulations and economics, including the departure of the smelters, a portion of that generation fleet was retired prior to being fully depreciated. With the support of the Commission, the Kentucky Industrial Utility Customers and the Kentucky Attorney General, Big Rivers has put a plan in place to amortize the remaining book value of those retired assets over the next decade or so. Recovery of that amortization is a key component of Big Rivers' financial health. If Kimberly-Clark is not required to pay its full share of that amortization, such costs will fall to other members to do so on their behalf. Kimberly-Clark does not acknowledge this fact, but the Commission's order allowing recovery of smelter loss mitigation assets was purposely shared equitably among all of its members; under their proposal, Kimberly-Clark avoids approximately one-third of its share of the costs, and Big Rivers' other members pay all of these costs.

Q. What about generation which is not retired?

A. Even after the retirement of Coleman and Reid One, the exit of the Station Two contract with Henderson Municipal Power and Light, and the conversion of the two Green coal-fired units to natural gas, Big Rivers has

made a significant investment in generation assets on behalf of its members. It is important to remember that Big Rivers is a cooperative. As such, our member owners had a direct say on whether those investments would be made. Kimberly-Clark has enjoyed the low cost and reliability associated with that investment for decades. In their proposed approach to Maintenance and Backup Power Service, Kimberly-Clark's recommendation means that other Big Rivers members will absorb that cost on behalf of Kimberly-Clark. They even suggest that there is no cost associated with generation required for maintenance power because Maintenance would only be scheduled when "unused" capacity is available.

Q. Why then does Big Rivers offer to establish the standby rate using a credit of $3.80/kW-month for generation capacity?

A. Big Rivers is recognizing the value that the additional capacity provided by a member's generation resource brings to the other members. Big Rivers will need to acquire less capacity if it is short or will have more capacity to sell if it is long. This helps mitigate the costs that the standby customer should be paying.

Q. How did Big Rivers choose $3.80/kW-month? Why not just use the Cost of New Entry ("CONE")?

A. The intent of Big Rivers' approach to the LICSS tariff is to give the member credit for the value of the capacity added to Big Rivers' system

for which backup is being requested, while minimizing subsidization from other members. The $3.80/kW-month is the cost associated with the conversion of the Green coal units to natural gas for the 2022-2028 planning years, which is almost identical to the cost of firm bilateral capacity for that same period. This is entirely consistent with the position of the Commission, as I discuss later in my testimony. Using CONE overstates the value of the capacity provided by the generation for the reasons provided by Mr. Eacret in the Joint Response to the Commission Staff's Second Request for Information, Item 3.

Q. Kimberly-Clark asserts that the "LICSS tariff rates should be based on Big Rivers' cost to provide that service." (Bieber Direct, page 4, lines 74-75.) However, does Kimberly-Clark's recommended rate design ensure that Kimberly-Clark pays the cost to provide Backup Power Service and Maintenance Power Service?

A. No. This recommendation reveals a fundamental misunderstanding of the cost required to provide Backup Power Service and Maintenance Power Service. For example, Kimberly-Clark complains, "Under this proposed rate structure, the standby customer would be required to pay demand charges at a rate of $6.915/kW-month year-round for a level of demand equal to the Self-Supply Capacity, regardless of whether or not the standby customer actually received Maintenance or Backup Power in

a given month." (Bieber Direct, page 7, lines 131-135 (footnote omitted).) The contention seems to be that a standby customer should only pay for Backup Power Service and Maintenance Power Service when the customer is receiving Backup energy or Maintenance energy. However, Big Rivers must have the transmission facilities in place to deliver that energy to Kimberly-Clark 24 hours a day, 7 days a week, 52 weeks a year. Big Rivers' proposed LICSS tariff requires Kimberly-Clark to pay for at least some of the cost Big Rivers incurred to build the transmission facilities that are necessary to provide Backup Power and Maintenance Power Service and the cost Big Rivers continues to incur to maintain those facilities.

Kimberly-Clark also assumes that there is no cost to Big Rivers to provide capacity for Maintenance Power Service because coordinating the scheduling of maintenance outages allows "Big Rivers the opportunity to ensure that Maintenance outages will be schedule during periods in which Big Rivers has sufficient *unused* capacity to provide Maintenance Power Service, such as off-peak periods." (Bieber Direct, page 7, lines 142-144 (emphasis in original).) However, the only reason Big Rivers would have unused capacity available to provide Maintenance Power to Kimberly-Clark is because of the investments Big Rivers made and continues to make to construct and maintain the generation that provides this service.

The Commission has observed the inequity of Large Industrial Customers leaving stranded investment for the Rural class to pay, stating, "If BREC's history informs the Commission of nothing else, it is LIC customers that may come and go based on a number of factors; and the rural class is always left holding the bag."[2] When two large aluminum smelters left the Big Rivers system in 2013 and 2014, they stopped paying for the utility plant Big Rivers constructed and financed to serve them, leaving over $400 million of stranded investment to be recovered from the remaining customers, and ultimately forcing Big Rivers to the "precipice of financial insolvency."[3]

While Big Rivers was unable to recover from the smelters the cost incurred to build the facilities necessary to serve them because they left the system, Kimberly-Clark remains on the system and is requiring Big Rivers to continue to own, finance, and maintain the utility plant needed to stand ready to provide an additional 14 MW anytime Kimberly-Clark's generator is not performing, without any advance notice. Kimberly-Clark should be required to pay for the cost required to provide this service.

[2] *In the Matter of: Electronic Application of Big Rivers Electric Corporation for Approval to Modify its MRSM Tariff, Cease Deferring Depreciation Expenses, Establish Regulatory Assets, Amortize Regulatory Assets, and Other Appropriate Relief*, Case No. 2020-00064, Order at page 23 (June 25, 2020).
[3] *See id.* at page 17.

Q. Kimberly-Clark claims that "it may be reasonable for Big Rivers to incur costs to increase its Planning Reserve Margin Requirement by an amount up to 11.1% of the standby customer's Self-Supply Capacity in order to provide Backup Power Service. However, Big Rivers will not be required to obtain additional capacity above this amount in order to provide Backup Power Service" (Bieber Direct, page 8, lines 160-164). Kimberly-Clark further asserts that Big Rivers "would not reasonably be required to obtain capacity greater than 11.1% of a standby customer's self-generating capacity in order to provide Maintenance and Backup Power Service" (Bieber Direct, page 9, lines 168-171). Kimberly-Clark repeats this claim in its response to the Commission Staff's First Request for Information, Item 1. Are these claims correct?

A. No. Kimberly-Clark is asserting that Big Rivers need only secure the planning reserve margin associated with the standby customer's Self-Supply Capacity. But this constitutes a flawed application of planning reserve margins. The intent of this planning tool is to ensure that Big Rivers' resource capacity not only meets its expected customer demand but also exceeds that demand by an adequate margin. Planning reserve margins must be sufficient for Big Rivers to cover planned maintenance of its assets, unplanned or forced outages of its generating equipment, resource deratings, system effects due to reasonably anticipated

variations in weather, and load forecast uncertainty. Big Rivers is required to obtain capacity for the entirety of its forecasted peak demand, plus a reserve margin of approximately 11.1 percent. Big Rivers must procure capacity not only for the reserve margin but also for the base demand that must be met by Big Rivers.

Q. Can you explain this with an example?

A. Yes. Assume that Kimberly-Clark's Self-Supply Capacity is 14 MW, and that Big Rivers' target reserve margin is 11.1%. All else being equal, if Big Rivers only secured the reserve margin obligation for the 14 MW as Kimberly-Clark suggests, it would have procured 14 MW x 11.1% = 1.6 MW of capacity for providing Backup Power Service. When the Kimberly-Clark unit then becomes unavailable, Big Rivers would be 12.4 MW short (14 MW – 1.6 MW = 12.4 MW) of the capacity it needs to supply Kimberly-Clark with Backup Power Service. The 1.6 MW of reserve margin capacity is not meant to meet all of the power requirements of the standby customer; it is intended to address the fluctuations around Big Rivers' ability to meet the 14 MW that result from Big Rivers' plant outages, resource derates, weather variations, and uncertainty in load forecasts.

Q. What would Big Rivers have to do to plan to be able to meet the full standby customer load obligation (i.e., including the full Self-Supply Capacity) in the event of an unplanned outage of the customer's power plant?

A. Because Big Rivers will not include the full Self-Supply Capacity – and the corresponding reserve margin – in the load forecast used in the MISO PRMR[4] process, it would have to otherwise procure capacity for the full Self-Supply Capacity and the reserve margin in order to be ready at all times to provide the Backup Power Service. This would also include the full 14 MW of transmission, which Kimberly-Clark would require but would otherwise not pay for under their recommended approach.

Q. Is an outage of Kimberly-Clark's self-supply considered in the same way that an outage of a Big Rivers power plant with respect to reserve margin?

A. No. As correctly observed in the Bieber Direct on page 4, lines 73-74, the standby customer is load buying a service from Big Rivers, and not a resource selling capacity to Big Rivers. As I noted before, reserve margin is intended to address the fluctuations around Big Rivers' ability to meet its customer demand resulting from Big Rivers' plant outages, resource derates, weather variations, and uncertainty in load forecasts. Because the standby customer demand is Big Rivers load, the only one of these drivers for which the loss of self-supply qualifies is load fluctuation. In the previous example, the 1.6 MW of Big Rivers reserve margin capacity that Kimberly-Clark asserts is sufficient to cover the loss of its self-supply resource is not meant to meet all of the power requirements of the

[4] PRMR = Planning Reserve Margin Requirement

standby customer (nor is it sufficient to do so). It is meant to address, for example, some of the fluctuations in overall standby customer demand that can occur, as noted in Kimberly-Clark's response to the Commission Staff's First Request for Information, Item 2b.

Q. What do you conclude about Kimberly-Clark's position regarding the amount and cost of capacity that Big Rivers must procure in order to provide Maintenance and Backup Power Service to standby customers?

A. Kimberly-Clark's assertions are incorrect and result in the understatement of the amount of and cost of capacity that Big Rivers would have to procure – and thus an understatement of the costs for such capacity – in order to provide Maintenance and Backup Power Service to standby customers.

B. Marginal vs Embedded Costs

Q. What is Kimberly-Clark's position on the use of marginal costs for establishing the demand charge for Maintenance and Backup Service?

A. Kimberly-Clark opposes the use of marginal costs in the determination of the demand charge for Maintenance and Backup Power Service. Kimberly-Clark states that the LICSS tariff rates "should be based on Big Rivers' cost to provide that service." (Bieber Direct, page 10, lines 192-193). Kimberly-Clark also states that a standby service charge "should be

based on a utility's embedded cost of service." (Response to Big Rivers Electric Corporation First Request for Information, Item 3).

Q. What is your reaction to this position?

A. I see at least two shortcomings with this view. First, it does not treat energy charges and demand charges consistently. Second, basing the demand charges entirely on the embedded cost to serve standby customers would yield an outcome quite different from that proposed by Kimberly-Clark.

Q. Please explain the first problem regarding consistency between demand and energy charges.

A. Kimberly-Clark supports the use of marginal costs for energy; they support Big Rivers' proposed use of the higher of the standard LIC energy charge or market price for Maintenance and Backup Power Service. The higher of base rates or market price is another way of saying "use embedded costs but consider the marginal cost and use that if it exceeds embedded costs." But the Kimberly-Clark position on demand rejects the consideration of marginal costs altogether in the determination of the demand charge. For this reason, the Kimberly-Clark position on energy and demand is inconsistent. If marginal costs are not appropriate to use for standby rates, why would Kimberly-Clark support the use of marginal costs for the standby energy charge? It would be more appropriate to at

least consider the marginal costs both for energy and demand, as Big Rivers did in the proposed LICSS tariff rates.

Q. Please explain the second problem regarding what the use of embedded cost to serve would actually mean for Big Rivers.

A. Recall that Big Rivers does not include the standby customer's Self-Supply Capacity in its load forecast for the MISO PRMR, so that in order to provide Backup Power Service, it is necessary for Big Rivers to procure the full amount of the standby customer's Self-Supply Capacity – not just a fraction of it as Kimberly-Clark claims. Given this fact, basing LICSS tariff rates on Big Rivers' embedded cost to provide the service would result in the application of the full standard rate demand charge from the LIC tariff for Backup Power Service demand and at least some portion of that same rate for Maintenance Power Service demand.

Q. Is that the rate design that Big Rivers proposed?

A. No. Big Rivers recognizes industrial customer advocate arguments that standby rates should not create a barrier to customers becoming early adopters of emerging cost-effective distributed generation technologies, particularly that a full demand charge may be a disincentive for some customers. Big Rivers' aim with the LICSS rate design was to balance (i) addressing utility rate design objectives regarding cost recovery and free ridership, (ii) minimizing subsidization of a standby customer's self-

generation by other retail customers, and (iii) reducing disincentives for standby customers to install cost-effective distributed generation.

Q. Kimberly-Clark does not agree with charging standby customers the LIC demand rate minus a credit for the value of capacity based on marginal cost, stating that "LICSS customers are not selling capacity to Big Rivers; they are buying standby service." (Bieber Direct, page 10, lines 191-192). How do you respond to this view?

A. From a transaction pricing standpoint, there is no difference. For demand, buying standby service and selling capacity both amount to a transaction of capacity; the only question is how to determine the appropriate price for that transaction. Big Rivers started with the standard LIC demand charge in order to put standby customers on equal footing with other customers at the onset. Then, since Big Rivers does not procure capacity for the standby customer's Self-Supply Capacity in MISO, all of the capacity at issue is incremental from a planning standpoint. For this reason, Big Rivers proposed offsetting the standard LIC demand charge with a credit for Big Rivers' avoided capacity cost. That avoided capacity cost is based on the capacity cost of the next incremental capacity addition. This is described by Big Rivers in its recent filing on the conversion of the Green Station units to natural gas (Case

No. 2021-00079)[5] and is consistent with the Commission's recently-expressed position on avoided capacity costs (Case No. 2021-00198).[6]

Q. Should the proposed LICSS Maintenance and Backup Power Service demand charge be modified to reflect a standby service customer's contribution to Big Rivers PRMR (Bieber Direct, page 15)?

A. Not in the way described by Kimberly-Clark. The position put forth by Kimberly-Clark understates the capacity amounts required to provide these services. If the demand charge is modified to reflect PRMR requirements, it should reflect the standby customer's full Self-Supply Capacity and the corresponding reserve margin requirement, not just the reserve margin requirement. Such a revision is not required, however, because the approach proposed by Big Rivers -- the establishment of a demand charge based on the standard LIC rate less a credit for the avoided capacity costs -- is a reasonable approach to designing standby service demand charges.

[5] Wolfram Direct, pages 3-4.

[6] *In The Matter Of: Electronic Tariff Filing Of East Kentucky Power Cooperative, Inc. And Its Member Distribution Cooperatives For Approval Of Proposed Changes To Their Qualified Cogeneration And Small Power Production Facilities Tariffs*, Case No. 2021-00198, Order Dated October 26, 2021, Footnote 10: "This Commission has no interest in allowing our regulated, vertically-integrated utilities to effectively depend on the market for generation or capacity for any sustained period of time. Thus, should a capacity deficit occur, or is anticipated to occur, it is the replacement capacity cost of the next unit built, or the cost of firm bilateral capacity that should form the basis for avoided capacity values, not a market clearing price. If the Commission does not expect to allow a utility to depend on market-purchases for its long-term capacity needs, it follows that market capacity is not the cost the utility is avoiding. Rather, the likelihood is that the utility will replace generation capacity with "steel in the ground" or a Purchase Power Agreement. Therefore, the Commission places a greater emphasis on calculating avoided generation capacity cost, and thus value, on a proxy unit calculation."

C. QFS Tariff

Q. Kimberly-Clark recommends that the rate design for Maintenance and Backup Power demand under the LICSS tariff should be structured similar to the rate design under the QFS tariff (Bieber Direct, page 14, lines 268-272). How do your respond to this view?

A. When one considers Kimberly-Clark's earlier arguments, this view is intellectually inconsistent. Recall that Kimberly-Clark stated that "LICSS customers are not selling capacity to Big Rivers; they are buying standby service." (Bieber Direct, page 10, lines 191-192). But the QFS tariff is designed for customers that are selling capacity to Big Rivers. If the standby customer is buying standby service and is not selling capacity to Big Rivers, why model the LICSS rate after the QFS rate? Effectively Kimberly-Clark is arguing that they are not selling capacity to Big Rivers, but that they want a rate that treats them like they are selling capacity to Big Rivers. They cannot have it both ways.

Q. Mr. Bieber makes frequent references to the approach in the QFS tariff. Why is that not appropriate?

A. Most of the language in the QFS tariff pre-dates Big Rivers' membership in MISO by over a decade. The tariff includes anachronistic references to "import energy from a Third Party supplier" and only the values in the rate calculation were updated in the last full rate proceeding. To the best of Big Rivers' knowledge, no member has ever requested Maintenance or

Backup Power service under the QFS tariff. Big Rivers is not opposed to revising the QFS tariff to align better with the market in which Big Rivers now operates and with the concepts being applied in the LICSS.

Big Rivers believes that neither the self-generation installed by QF customers, nor the self-generation installed by Standby Service customers should be subsidized by other customers. Under Big Rivers' QFS and QFP tariffs, a new QF customer would be required to pay for all interconnection costs caused by the QF. This offers some assurance that these costs are not being borne by other customers. However, if Big Rivers' QFS tariff does not recover the full cost to provide backup and maintenance service to a QF customer, the QFS tariff should be revised, to the extent allowed by law.

III. CONCLUSION

Q. Are Kimberly-Clark's recommendations for the LICSS tariff misplaced?

A. Yes. For the reasons explained herein, Kimberly-Clark's claims regarding the amount of capacity required for standby service, the consideration of marginal vs. embedded costs, and the merits of the QFS tariff are incorrect and should be rejected. The LICSS rate filed by Big Rivers in this proceeding is reasonable and should be accepted by the Commission as filed.

Q. Does this conclude your testimony?

A. Yes.

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ELECTRONIC TARIFF FILING OF BIG RIVERS ELECTRIC CORPORATION AND KENERGY CORP. TO IMPLEMENT A NEW STANDBY SERVICE TARIFF	))))	Case No. 2021-00289

VERIFICATION

I, John Wolfram, verify, state, and affirm that I prepared or supervised the preparation of the Rebuttal Testimony filed with this Verification, and that testimony is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.

John Wolfram

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by John Wolfram on this the 20th day of December, 2021.

Notary Public, Ky. State at Large
My Commission Expires_____

Notary Public, Kentucky State-At-Large
My Commission Expires: July 10, 2022
ID: 604480