COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF BIG RIVERS ELECTRIC	)	
CORPORATION FOR APPROVAL TO MODIFY	)	
ITS MRSM TARIFF, CEASE DEFERRING	)	Case No. 2020-00064
DEPRECIATION EXPENSES, ESTABLISH	)	
REGULATORY ASSETS, AMORTIZE REGULATORY	)	
ASSETS, AND OTHER APPROPRIATE RELIEF	)	

(PUBLIC VERSION)

DIRECT TESTIMONY AND EXHIBITS

OF

STEPHEN J. BARON

ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

April 2020

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DIRECT TESTIMONY OF STEPHEN J. BARON

I. QUALIFICATIONS AND SUMMARY

Q. Please state your name and business address.

A. My name is Stephen J. Baron. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by who are you employed?

A. I am the President and a Principal of Kennedy and Associates, a firm of utility rate, planning, and economic consultants in Atlanta, Georgia.

Q. Please describe briefly the nature of the consulting services provided by Kennedy and Associates.

A. Kennedy and Associates provides consulting services in the electric and gas utility industries. Our clients include state agencies and industrial electricity consumers. The firm provides expertise in system planning, load forecasting, financial analysis, cost-of-service, and rate design. Current clients include the Georgia and Louisiana Public Service Commissions, and industrial consumer groups throughout the United States.

Q. Please state your educational background and experience.

A. I graduated from the University of Florida in l972 with a B.A. degree with high honors in Political Science and significant coursework in Mathematics and Computer Science. In 1974, I received a Master of Arts Degree in Economics, also from the University of Florida.

I have more than forty years of experience in the electric utility industry in the areas of cost and rate analysis, forecasting, planning, and economic analysis.

I have presented testimony as an expert witness in Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Maryland, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Texas, Utah, Virginia, West Virginia, Wisconsin, Wyoming, the Federal Energy Regulatory Commission and in United States Bankruptcy Court.

A complete copy of my resume and my testimony appearances is contained in Baron Exhibit__(SJB-1).

Q. Have you previously presented testimony before the Kentucky Public Service Commission?

A. Yes. I have testified before the Kentucky Public Service Commission ("Commission") in thirty cases over the past thirty-nine years, including cases involving Big Rivers Electric Corporation ("Big Rivers" or "Company").

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of Kentucky Industrial Utility Customers, Inc. ("KIUC"), a group of large industrial customers of Big Rivers. The members of KIUC participating in this case are Domtar, Inc., and Kimberly-Clark Corporation.

Q. What is the purpose of your testimony?

A. I am responding to the Company's Application and testimony that presents a rate plan designed to amortize Big Rivers' Smelter Loss Mitigation Regulatory Assets, improve its financial position and credit ratings, and provide Monthly Bill Credits to its members for the foreseeable future. The primary purpose of my testimony, however, is to address the reasonableness of the Company's current Large Industrial Class ("LIC") rate design. I discuss an analysis that I have prepared that demonstrates that the current design of the Large Industrial rate significantly departs from cost of service, resulting in significant cross-subsidies among the current Large Industrial customers. Specifically, I provide a detailed analysis that demonstrates that the current Large Industrial base rate energy charge of $38.05 per mWh, which was set by the Commission in Case No. 2013-00199 in May of 2014 is significantly above Big Rivers' actual unit energy cost of $24.75 per mWh. This significant disparity in the Large Industrial class energy charge from cost has created an unreasonable allocation of costs among current Large Industrial customers which results in high load factor Large Industrial customers subsidizing low load factor Large Industrial customers.

To remedy this problem, I am proposing a revenue neutral modification to the current Large Industrial rate that moves these excess energy costs to the Large Industrial rate demand charge. My proposal has no effect on the Big Rivers' Rural rate class. This means that my proposal will have no effect on residential, commercial and smaller industrial customers who take service on the Rural rate. Also, because my proposed Large Industrial rate redesign is revenue neutral (i.e., it produces exactly the same amount of total revenues as the current rate), it does not have an impact on Big Rivers itself. I also recommend that each of Big Rivers' three distribution cooperatives maintain the same retail adder as currently in effect, thus keeping the distribution cooperatives whole. Because Big Rivers does not forecast filing a new base rate case until after [redacted], it is reasonable to address the Large Industrial rate design now.[1]

Q. Are you proposing any exceptions for certain types of customers to the applicability of your updated Large Industrial rate?

A. Yes. To protect coal mines that are experiencing significant economic disruptions, I have designed my updated Large Industrial rate to exclude all of the Large Industrial Class coal mine customers. These coal mine customers will continue on the existing rate design under the KIUC proposal, which means they will continue to receive a subsidy. In addition, it would not be appropriate to apply the updated cost-based rate to the Large Industrial Economic Development Rate ("EDR") load because of the 90% EDR demand charge discount. Giving the EDR load a lower energy charge plus a 90% discount to the higher demand charge would result in a windfall and would not be revenue neutral to Big Rivers. All other Large Industrial customers would be charged the updated, cost-based rate.

Q. Before you discuss your primary issue, Large Industrial rate design, do you have any comments on the Company's various proposals to improve its financial condition and credit rating, including the creation of regulatory assets, a New TIER Credit and changes to the MSRM?

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[1] See response to KIUC 1-4(k), which is marked as Confidential.

A. Yes. While I am not addressing any of the Company's specific proposals in my testimony, KIUC supports Big Rivers' proposals in this case and believes that the Company's filing, if approved, will provide benefits to all of its members and their customers, without the need for a base rate increase at this time. Big Rivers should be commended for the success of its Smelter Load Mitigation plan. Although KIUC supports Big Rivers' proposals as filed, I encourage Big Rivers to continue seeking mechanisms to lower rates in the future. I also recommend quarterly reporting requirements to the Commission, as well as a prioritization of the write-down of the various regulatory assets. Finally, I recommend that Big Rivers maintain a 20% Member Equity cushion throughout the term of this plan, instead of allowing the cushion to grow.

In addition, as Big Rivers notes, any proposal to change the Company's FAC fuel stacking methodology to allocate the highest fuel costs to off-system sales (as previously advocated by KIUC), is no longer necessary for two reasons. First, the fuel cost differences between Big Rivers' two remaining coal plants (Wilson and Green) are not significant. Second, since all profits from off-system sales will be captured in the New TIER Credit, ratepayers are indifferent as to the allocation of fuel costs between native load and off-system sales.

Q. Would you briefly discuss the current Large Industrial rate design and how it was established in the 2013 rate case?

A. The current rates were set in Case No. 2013-00199, the "Alcan" case, and were effective May 15, 2014. In that case, the Company's rate design witness, John Wolfram, proposed an energy charge of $35.00 per mWh, which he stated "approximates Big Rivers' annual production cost on a per-unit basis." (Wolfram Direct Testimony at page 28, line 4). In other words, Mr. Wolfram intended to set the energy rate at cost of service. This $35.00 per mWh energy charge was applicable to both Rural and Large Industrial rates since both the distribution cooperatives and Large Industrial customers take service from the Company at transmission voltages.

Q. Did the Commission approve the Company's proposed $35 per mWh energy charge?

A. No. In its April 25, 2014 Order, the Commission stated:

> "Generally, the Commission believes that rates should be set so as to move closer to cost of service. Big Rivers COSS supports an energy charge much greater than $0.0350. However, Big Rivers contends that the energy charge supported by the COSS is inflated due to the accounting for, and the COSS allocation of, costs associated with Station Two, which is owned by Henderson Municipal Power and Light and operated by Big Rivers. Therefore, while the Commission finds that an increase in the energy charge of each rate class is warranted, recognizing the issue of the Station Two costs, we will not increase the energy charges to the level supported in the COSS. We will increase the Rural Class energy charge by $.010, from $.0350 to $.0450 per kWh, with the remainder of the Rural class increase being achieved by raising the demand charge from $12.914 to $13.805. The increase for the Large Industrial class will be achieved in its entirety by increasing the energy charge from $.0300 per kWh to $.03805 per kWh, with no increase to the demand charge." (Commission Order in Case No. 2013-00199, Pages 35-36).

Q. Have you reviewed the evidentiary support that the Commission cited in its Order?

A. Yes. First, as I indicated, Big Rivers stated in its testimony in the 2013 case that a cost based energy charge was approximately $35 per mWh in the test year of that 2013 case. This rate is clearly lower than either the Commission's ordered Rural or Large Industrial energy rates. The Commission Order states that "None of the parties filed testimony opposing or supporting Big Rivers' proposed rate design."[2] However, there were two data responses provided by Big Rivers to the Commission Staff which show information related to the test year Unit Cost of Energy. The first was in response to PSC-2-30. It showed the calculation of an average total production cost of $34.92 per mWh, supporting Mr. Wolfram's proposed energy charge of $35.00 per mWh. Based on my review, this analysis of energy related costs was limited to the Steam Power O&M functionalized to Production Energy in Big Rivers' model. These costs were then unitized by the total regular sales to the Rural and Large Industrial rate classes.

Q. What did the second data response show?

A. The second response was to PSC-2-33, and provided two pages of data and calculations which had evidently been filed as a part of Big Rivers' class cost of

[2] There is a footnote on the statement about the impact of Station Two referencing a time stamp from the evidentiary hearing, so it appears there was cross examination of the Company on this issue, though I have not reviewed that information.

service studies in prior cases, but omitted in the Alcan case. The Company stated that the calculations "had no effect on the study results." The Total Production Energy (Per kWh) shown on this schedule was $0.056472 per kWh, or $56.47 per mWh. This should have raised a red flag. It is highly unlikely that a utility with a predominately coal fleet would have an energy cost that high.

Q. Were you able to reconcile these two calculations ($35/mWh vs. $56.47/mWh)?

A. Yes. Table 1 below shows this reconciliation.

Table 1
Reconciliation of Unit Energy Cost - Case No. 2013-00199

	Prod Energy Revenue Requirement ($)	Regular Member Sales (mWh)	Unit Cost ($/mWh)
Total Production O&M	$ 114,945,141	3,291,731	$ 34.92
Purchased Power Energy	9,476,864		
Purchased Power - HMP&L	51,247,861		
A&G Expense	9,793,928		
Return on CWC	425,315		
Total Production Energy	$ 185,889,110	3,291,731	$ 56.47

Q. Do you see any problems with these calculations?

A. Yes. There are several major problems affecting one or both of these calculations. The most significant of these problems is the failure to properly account for off-system sales. Big Rivers' class cost of service study included almost $58 million of revenue from Total Special Sales (Non-member off-system sales) as an offset to the member cost of service. This credit was allocated as a pro forma adjustment to each rate class, using mWh energy as the allocator, which was reasonable. This implies that these off-system revenues are energy related. However, in the calculation of the unit cost energy (see Table 1), all of the pro forma adjustments were assigned to the Demand function. The Total Production Energy revenue requirement shown in Table 1 reflected the full cost of Big Rivers' Generation and Purchases, which amounted to 5,246,148 mWh. After accounting for energy losses, the total system energy available was 5,117,538 mWh, of which 1,825,807 mWh was sold off-system; the remainder was used to serve member load (Rural and Large Industrial).

Q. Were the costs associated with the 1,825,807 mWh of off-system sales included in the calculation of unit energy cost?

A. Yes. The problem with both the $35/mWh energy cost and the $56.47/mWh energy cost is that both of these amounts included the cost of energy to supply off-system sales, but there was no off-setting revenue credit from these off-system sales. This was a mistake since there were obviously costs incurred by Big Rivers (fuel, reagent, variable O&M, etc.) to make off-system sales.

The unit energy cost analysis from the 2013 rate case mistakenly provided no off-setting revenue credit from off-system sales because the Big Rivers' model assigned these off-system revenues to the Production Demand function, not the Production Energy function. Since the unit energy cost is calculated by dividing the Production Energy revenue requirements (which included the costs to make off-system sales) by only member mWh sales, not total mWh sales, the unit energy cost was significantly overstated. If the off-system revenues had been credited against the total Production Energy cost prior to the calculation of the unit energy cost rate, the result would have been a unit cost of $38.857 per mWh, not $56.47 per mWh.

Q. What other major problems did you find with the calculation?

A. The second major problem is that the Production Energy Revenue Requirement (the numerator in the unit energy cost calculation) included some costs that are collected through riders, not through base rates. In order to determine the correct level of the Base Rate Energy Charge, it is necessary to remove the impact of these riders. Big Rivers, in fact, did remove both the revenues and the matching expense offsets for the Fuel Adjustment Clause (FAC), the Environmental Surcharge (ES), and the Non-FAC Purchased Power Adjustment (NFPPA) from the class cost of service as pro forma adjustments, correctly allocating each of these on an energy basis. However, in the Unit Energy Cost calculation, these adjustments were again assigned to the Demand function, not to Production Energy. Because of this, the base rate Unit Energy Cost was overstated. Correctly removing the FAC and NFPPA (which was a credit in the test year) from the Production Energy Revenue Requirement would have reduced the 2013 Unit Energy Cost rate to $33.267 per mWh. These adjustments to the Unit Energy Cost are shown in Baron Exhibit__(SJB-2) beginning at Line 57.

Q. Should the current Large Industrial energy charge be revised to $33.267 per mWh?

A. No. The Large Industrial rate energy charge should be reduced significantly below that level due to two material changes that have occurred on the Big Rivers' system since the 2013 case. First, because Big Rivers' is currently making significantly higher off-system sales, the margins from those sales, which are energy related, will also be higher. All else being equal, this would reduce the Unit Energy Cost. Second, the shutdown of Henderson Municipal Power & Light Station Two and the Coleman plant have resulted in a reduction in Unit Energy Cost. Based on 2013 actual data, Henderson Municipal Power & Light Station Two's fuel and variable O&M expenses per mWh were about 22% higher than the average cost of Big Rivers' Green and Wilson plants, the two current operating coal plants. The cost of the Coleman plant, also now retired, was about 10% higher in 2013 than the Green and Wilson plants.

Q. Are you recommending that Big Rivers perform an entirely new test year class cost of service study, reflecting these changes on Unit Energy Cost?

A. No. There is no need to do so. Rather, the Large Industrial rate energy charge can simply be updated to reflect both recent changes in underlying costs, a correction to reflect a proper crediting of off-system sales revenues, and the removal of rider revenues and expense that are not part of base rates. The revenue shortfall will be fully off-set by a corresponding increase in the Large Industrial demand charge. This rate design would be revenue neutral to Big Rivers. In addition, by properly recovering all fixed costs through the demand charge, Big Rivers would have a more stable cash flow and would be less subject to revenue erosion through decreased sales.

Q. Would your proposal result in any change to the Rural rate paid by member distribution cooperatives?

A. No. All effects of my proposed update to the Large Industrial energy rate would be contained within the Large Industrial rate class. I am not proposing any changes to the rate for the Rural class.

Q. Would you describe your proposed Large Industrial rate design update analysis?

A. Yes. The purpose of my analysis is to update the Large Industrial rate design to reflect the most recent data available, which is actual data for the 12 months ending December 31, 2019. I used the same modeling process as Big Rivers did in in the 2013 rate case to determine an updated amount of functionalized

Production Energy revenue requirements. Because my analysis is based on actual 2019 data, there was no need to develop forecasted data or pro form the 2019 test year data.

Q. Did you develop a full class cost of service study to develop your functionalized Production Energy revenue requirements?

A. No. Since the purpose of the analysis was to develop an updated Large Industrial unit energy cost, without changing either the Large Industrial total rate class revenue requirement or the allocation of costs between the Rural and Large Industrial rate classes in order to maintain revenue neutrality, there was no need to develop a full class cost of service study. The revenue reduction produced by the updated Large Industrial energy charge would be fully added to the Large Industrial demand charge. Therefore, it was not necessary to perform a full revenue requirement calculation for the Production Demand function, or any other Big Rivers' costs besides energy related costs.

In the original 2013 Big Rivers' model, the Company first performed an analysis to functionalize per book costs between Production Demand, Production Energy, and Transmission Demand. In a separate analysis, these functionalized costs were allocated between the Rural and Large Industrial classes, with pro forma adjustments being made and allocated as a part of this analysis. To calculate an updated Large Industrial energy charge, it is only necessary to perform a limited analysis to determine the 2019 costs that are functionalized to Production Energy. Our analysis updated each of the costs that the Company had assigned to Production Energy in its 2013 rate case modeling.

Q. Would you provide some further clarification that explains why is it not necessary to assign 2019 costs for the Production Demand and Transmission Demand functions?

A. There are only two components of the Large Industrial rate – a demand charge and an energy charge. Setting either charge at cost, and computing the other charge as a residual insures that the total revenues for the Large Industrial rate class will remain constant at the 2019 level. This is the definition of a revenue neutral rate design. It does not change the total revenues paid by Large Industrial customers, nor does it change the costs to any Rural customer. As such, Big Rivers will receive the same level of total revenues that it would otherwise have received under the current rate design approved in the 2013 rate case.

Q. Did you make any changes to any Production Energy revenue requirements associated with functionalized energy rate base?

A. No. The only rate base component functionalized to Production Energy by Big Rivers is Cash Working Capital ("CWC"), which was determined by using a 1/8th of non-fuel O&M method. This Production Energy CWC revenue requirement is a very small amount. In our analysis we calculated it directly using the System

Rate of Return at proposed rates from the Company's model in the 2013 rate case. The resulting Production Energy Revenue Requirement from CWC is only $186,954, which is $0.058 per mWh on a unit cost basis.

Q. Is it necessary to perform an allocation of the updated Production Energy revenue requirement to rate classes?

A. No, there is no need to do so because unit energy cost is the same for each rate class. In Big Rivers' model, there are no costs functionalized to Production Energy which are not allocated on Energy. Since there are no voltage differences between rate classes at the wholesale level, the Unit Energy costs are the same for the System and both rate classes.

Q. Would you describe the specific analysis that you developed?

A. Baron Exhibit__(SJB-3) contains the updated Production Energy/Unit Energy Cost analysis based on actual 2019 data. For comparison purposes, I also included the corresponding 2013 rate case Production Energy/Unit Energy Cost analysis that I presented in Exhibit__(SJB-2). As can be seen, I followed the Big Rivers' methodology. The only exceptions to this rule were the four offset adjustments that I made to reflect: 1) off-system sales, 2) the FAC, 3) the Non-FAC PPA and 4) the Environmental Surcharge (see Lines 57 to 65). I previously explained why these adjustments are required in the Unit Energy Cost calculation.

Q. What is the effect of the off-system sales offset to the 2019 Production Energy cost?

A. The off-system sales revenue offset is very significant. During 2019, the Company had a total of $106 million of Total Special Sales (Non-member). These are off-system sales. Of this amount, $9 million was identified as sales of capacity and would properly be assigned to Production Demand. After crediting these off-system sale energy related revenues, the Production Energy revenue requirement is reduced from $190,693,748 (Line 53) to $93,852,814 (Line 60). The Unit Energy Cost is reduced from $59.459/mWh per mWh to $29.264/mWh.

Q. What is the effect of the other three offset adjustments?

A. These adjustments are shown on Lines 62 to 65 of Exhibit__(SJB-3). Since the recoverable costs are functionalized to Production Energy and the riders are collected on an energy basis, 100% of the FAC and NFPPA revenues during 2019 were credited against the Unit Energy Cost. For the Environmental Surcharge, the recoverable costs that were specifically functionalized to Production Energy in Big Rivers' model were removed from the Production Energy revenue requirements (Line 62). These energy related costs are Bottom and Fly Ash disposal in Account 501 and Allowance in Account 509.

The final, adjusted 2019 Unit Energy Cost is $24.75 per mWh. This is shown on Line 65 of Exhibit__(SJB-3). I am recommending that the updated Large Industrial Base Rate energy charge be set at $24.75 per mWh.

It is useful to note that the energy charge I am recommending here is almost exactly the same as the Large Industrial energy charge that existed before the rate case that was triggered by the Century Hawesville aluminum smelter purchasing market generation through Kenergy. Before the October 29, 2013 Order in Case No. 2012-00535, the Large Industrial energy charge was $24.508/mWh.

Q. Would you explain how you updated the Large Industrial demand rate to reflect your proposed $24.75 per mWh energy charge?

A. Yes. First, I excluded two categories of Large Industrial customers from the updated rate design. I am recommending that these customers continue on the existing rate design that includes a $38.05 per mWh energy charge. The first category consists of the 10 current Large Industrial class coal mines. Based on a review of the billing data for 2019, some of these mining customers are operating at very low load factors. In fact, 5 of these mining customers have filed for bankruptcy. As such, the mines are operating at very low load factors, which would result in large bill increases if the energy charge is updated to reflect cost of service. Effectively, these mining customers are being subsidized by higher load factor customers on the Large Industrial rate, and I am proposing to maintain that subsidy. Providing protection for these mining customers is consistent with the Commission's policy, as evidenced by the approval of Kentucky Power Company's Special Contract with MC Mining LLC in Case No. 2019-00124. This contract is designed to promote economic development in eastern Kentucky.[3]

The second category of customer that I excluded is the EDR load of Aleris. Aleris is receiving a 90% reduction to its demand charge for its EDR load. If this EDR customer received the lower cost-based energy charge that I am recommending, and received a 90% reduction to the higher cost-based demand charge, the EDR discount would be substantially increased. This would be a windfall to the EDR load and would not be revenue neutral to Big Rivers. As such, I am recommending that Aleris' EDR load continue under the existing rate design, and that Aleris' non-economic development load be billed under the updated cost-based rate design.

Q. Please explain how you calculated the corresponding Large Industrial rate demand charge that is required to maintain revenue neutrality?

A. Baron Exhibit__(SJB-4) shows these calculations. The rate design update analysis is based on 2019 billing determinants for the Large Industrial rate class. As shown on the exhibit, Large Industrial mining customers and the EDR load

[3] Electronic Application of Kentucky Power Company for Approval of a Contract for Electric Service with MC Mining, LLC., Commission Order in Case No. 2019-00124, August 23, 2019.

have been separated out from the remaining customers. Only the non-mining, non-EDR customers are included in the rate redesign. However, consistent with the revenue neutrality requirement, the sum of the revenues produced by both groups of customers is identical (within rounding) of the actual 2019 level of revenues.

For the Large Industrial customers subject to the redesigned energy charge (top portion of the exhibit), the energy revenues for a 2019 test year are $19,869,084, compared to the energy revenues of $30,546,208 produced using the current $38.05 per mWh energy rate. To maintain revenue neutrality, the net energy revenue reduction of $10,677,124 is added to the 2019 demand charge revenues. The updated Large Industrial rate demand charge will be $18.731 per kW. Consistent with my objective to maintain revenue neutrality, the total Large Industrial rate revenues are the same (except for rounding) for both the current and updated rates. Table 2, below, provides a comparison of the current and updated Large Industrial rates.

Table 2
Updated Large Industrial Rate vs. Current Rate

		Current Rate	Proposed Rate	% Change
Demand Charge	kW-Mo	10.7150	18.7310	74.81%
Energy Charge	kWh	0.038050	0.024750	-34.95%
Total Demand and Energy Charges		0.058095	0.058096	0.00%
Non-Smelter Non-FAC PPA		0.001443	0.001443	0.00%
FAC		0.001417	0.001417	0.00%
Environmental Surcharge		0.005273	0.005273	0.00%
Surcredit		-0.000881	-0.000881	0.00%
		0.000095	0.000095	0.00%
Total		0.065440	0.065441	0.00%

Q. How does the updated Big Rivers Large Industrial rate energy charge compare to the charges for other utilities in Kentucky?

A. Table 3, below, shows a comparison of the current and updated Big Rivers Large Industrial rate energy charge to the large industrial rate energy charges for Kentucky Power Company's ("KPCo") IGS Transmission rate and Kentucky Utilities Company's ("KU") RTS rate. The FAC base fuel and non-fuel portion of the base energy charge for each company is also shown in Table 3. Table 3 demonstrates several points. First, the updated Big Rivers Large Industrial rate energy charge of $24.75/mWh is within the range of the corresponding KPCo ($27.31/mWh) and KU ($26.70/mWh) energy charges. This result is to be expected since KU, KPCo and Big

Rivers all have predominately coal based generation. As I stated earlier, before the October 29, 2013 Order in Case No. 2012-00535, Big Rivers' Large Industrial energy charge was $24.508/mWh. However, the current Big Rivers energy rate of $38.05/mWh is substantially greater than the energy charges for KU and KPCo. Second, Under Big Rivers' current Large Industrial rate design, the FAC base fuel component is only about half of its base rate energy charge. This should also be a red flag. In contrast, for KU and KPCo they are almost identical. This suggests that both KU and KPCo have cost-based rate designs.

Table 3
Comparison of Updated Big Rivers' Large Industrial Rate to
Kentuck Power Co. and Kentucky Utilities Co. Large Industrial Rates

	Demand Charge	Base Rate Energy Charge	FAC Base Fuel	Non-Fuel Base Energy
Current BREC Large Industrial	10.715	0.03805	0.020932	0.017118
Proposed BREC Large Industrial	18.731	0.02475	0.020932	0.003818
Kentucky Power IGS Trans *	14.750	0.02731	0.027250	0.000060
Kentucky Utilities RTS **	16.360	0.02670	0.026090	0.000610

* Demand Charge is on-peak + off-peak
** Demand Charge is per kVa; sum of Peak, Intermediate, and Base

Q. Why is it important to reflect a cost based energy charge in the Large Industrial rate design?

A. The current $38.05 energy charge in not justified by any reasonable measure of cost. Even using data from the 2013 rate case, which included energy related costs from Henderson Station Two and Coleman that are now retired, the energy charge is substantially above cost. Based on updated Big Rivers' energy related costs, the current energy charge is 54% above cost. This means that higher load factor Large Industrial customers have been paying substantial subsidies of hundreds of thousands of dollars per year to lower load factor Large Industrial customers. Since 2014, when the current rate went into effect, these customers have paid millions of dollars to subsidize other Large Industrial customers. It is appropriate to correct this problem now (except for the coal mines which will continue to be subsidized), since Big Rivers does not forecast filing a base rate case until after [redacted]. The subsidy in the Large Industrial rate has existed since 2014 and it is unreasonable for it to continue for at least another [redacted] years.

My recommendation is that the revenue neutral, cost-based Large Industrial rate design be implemented by Big Rivers in the first billing month after a final order in this case.

Q. Are there any additional issues that you would like to address?

A. Yes. Each of the distribution cooperatives that serve Large Industrial Customers includes a distribution adder to the otherwise applicable Big Rivers' Large Industrial Customer rate. For example, KIUC members Kimberly Clark and

Domtar take service from Kenergy Corp. pursuant to Schedule 34. Schedule 34 reflects Big Rivers' Large Industrial Customer rate plus an added customer charge of $1,028 per month and an added kWh charge of $0.000166 per kWh. The KIUC proposed Large Industrial Customer rate update is designed to be revenue neutral for each of the distribution cooperatives, as well as Big Rivers. Each of the distribution cooperatives serving Large Industrial Customers should be permitted to simply update their rate schedules to reflect the updated Big Rivers' Large Industrial Customer rate that KIUC is recommending, without the need to file a base rate case. Since such an update would not change the adder revenues received from Large Industrial Customers, there should be no need for any distribution cooperative to file information with the Commission beyond a revised tariff reflecting the changes to Big Rivers' Large Industrial Customer rate.

Q. Has the Commission approved cost of service based revenue neutral changes in rate design outside of a base rate case?

A. Yes, on numerous occasions. In Case No. 2012-00369, Fleming-Mason Energy Cooperative ("Fleming-Mason") proposed to implement a revenue neutral change in the rate design for its residential and small power ("RSP") and large industrial customer classes outside of a base rate case. The proposal was made to better reflect cost of service and to reduce the utility's exposure to revenue erosion that could occur due to decreasing sales. Fleming-Mason proposed to shift a portion of the recovery of its fixed costs for the RSP class from its volumetric energy charge to its monthly customer charge. Fleming-Mason also proposed to increase the demand charges and decrease the energy charge for Large Industrial Service Schedules 4, 4B, 5, 5B, 6, 6B and 7. This is the same proposal I am making here. The Commission approved Fleming-Mason's proposal.

A similar result occurred with Owen Electric Cooperative Corporation ("Owen") in Case No 2011-00037. Owen sought to redesign its residential and small commercial rates to better reflect cost of service and to reduce its exposure to revenue erosion. Owen's proposal was not made in a base rate case. Specifically, Owen sought to increase the level of fixed cost recovery through increased customer charges, with a corresponding revenue neutral reduction in energy charges. The Commission approved Owen's proposal in a three-step process.

In Case No. 2018-00407, the Commission on its own motion opened a new administrative case to implement a "streamlined procedure" for distribution cooperatives to flow through wholesale rate increases from their Generation and Transmission suppliers (Big Rivers and East Kentucky). The administrative case also addressed revenue neutral rate design cases. "Applications for revenue-neutral cases should be revenue neutral, should only include changes in rate design or allocation, and should result in no change to the Distribution Cooperative's annual revenue requirement as approved in the Distribution Cooperative's last base rate case." Acting pursuant to this administrative case, Jackson Energy Cooperative Corporation ("Jackson Energy") sought a revenue neutral redesign of its residential rate in Case No. 2019-00066. Jackson Energy proposed a 46% increase in its residential customer charge, and a corresponding revenue neutral reduction in its residential energy charge. The Commission approved Jackson Energy's proposal, stating "this Commission has been consistently in favor of raising the customer charge in utility rate cases to reflect the fixed costs inherent in providing utility service."

Q. Should Big Rivers continue to explore options to reduce the cost impact of amortizing its regulatory assets, thus allowing for a larger Monthly Bill Credit?

A. Yes. Big Rivers' proposal is to apply half of its margins above a 1.30 TIER as a Monthly Bill Credit and the other half to amortize its regulatory assets. The regulatory assets are in two basic categories: 1) deferred depreciation on Wilson and Coleman that has benefited current customers by lowering base rates; and 2) the remaining net book costs of the generation assets that had served the entire system since the early 1970's, but were stranded after the two aluminum smelters stopped purchasing generation supply from Big Rivers, and instead accessed the MISO wholesale market for generation through their retail electric supplier, Kenergy. The net book costs of these assets are: Coleman $117 million, Station Two $90 million and Reid $6 million. Big Rivers' plan is to have its regulatory assets fully paid off by the time its Members' all requirements contracts expire on December 31, 2043. A lot can happen over the next 23 years. Big Rivers should continually seek ways to reasonably reduce the amortization expense on current customers. For example, at some point securitization may make sense.

Q. Should there be reporting requirements and a prioritization of regulatory asset amortization?

A. Yes. I recommend that Big Rivers report the remaining regulatory asset balance by category[4] to the Commission and the Parties on a quarterly basis. The current and cumulative amount of Bill Credits should be reported also. Finally, Big Rivers should prioritize the assignment of the reduction in its regulatory asset balances. The relatively small focused management audit and DSM liability should be paid off first ($2 million), and then the deferred depreciation on Wilson and Coleman ($181 million). Finally, the remaining net book costs of Coleman, Station Two and Reid ($213 currently, plus decommissioning less net salvage) should be paid off.

Q. Should Big Rivers Maintain its 20% Member Equity Cushion Throughout the Term Of This Plan?

[4] Coleman Station, Station Two, Reid Unit 1, Coleman deferred depreciation, Wilson deferred depreciation, focused management audit, DSM liability.

A. Yes. The 20% Member Equity cushion should be maintained throughout the term of this plan, but it should not be allowed to grow beyond that. As shown on Exhibit Berry-6, at the end of 2020 Big Rivers expects to have a Member Equity balance of $539.6 million. Under the terms of its debt agreements, Big Rivers must maintain a Minimum Member Equity balance of $425.8 million. This creates headroom of $113.8. Big Rivers proposes to use 80% of this headroom ($91.0 million) to amortize its regulatory asset balance. KIUC fully supports this proposal. However, the headroom will grow each year. Under the loan agreements, 50% of future net margins must be added to the Minimum Member Equity balance. But the other 50% of future net margins is available to amortize the regulatory assets. If the other 50% of future net margins is not used to amortize the regulatory assets, then the 20% cushion will increase.

This is the mechanics KIUC recommends. Assume that to reach a TIER of 1.30 Big Rivers must have net margins of $12 million. Further assume 2021 net margins of $20 million, an excess of $8 million. Half of the net margin above a 1.30 TIER ($4 million) would go to the Bill Credit and the other $4 million would be used to amortize the regulatory assets. The Minimum Member Equity requirement would be increased by half of the $12 million of 1.30 TIER, or $6 million. But the other half of earnings necessary to achieve a 1.30 TIER ($6 million) would be available to further write down the regulatory assets. The alternative would be to grow the headroom above 20%. The mechanics I recommend can be effective in years when the TIER is above 1.30. When the TIER is below 1.30, then the mechanics proposed by Big Rivers should be adopted.

Q. Does that complete your testimony?

A. Yes.

AFFIDAVIT

STATE OF GEORGIA)

COUNTY OF FULTON)

STEPHEN J. BARON, being duly sworn, deposes and states: that the attached is his sworn testimony and that the statements contained are true and correct to the best of his knowledge, information and belief.

Stephen G. Baron
Stephen J. Baron

Sworn to and subscribed before me on this
28th day of April 2020.

Notary Public

RANDY A. FUTRAL
MY COMMISSION EXPIRES
NOTARY
PUBLIC
AUGUST 26, 2020
COBB COUNTY, GEORGIA

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF BIG RIVERS ELECTRIC	**)**	
CORPORATION FOR APPROVAL TO MODIFY	**)**	
ITS MRSM TARIFF, CEASE DEFERRING	**)**	**Case No. 2020-00064**
DEPRECIATION EXPENSES, ESTABLISH	**)**	
REGULATORY ASSETS, AMORTIZE REGULATORY	**)**	
ASSETS, AND OTHER APPROPRIATE RELIEF	**)**	

EXHIBITS

OF

STEPHEN J. BARON

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF BIG RIVERS ELECTRIC	**)**	
CORPORATION FOR APPROVAL TO MODIFY	**)**	
ITS MRSM TARIFF, CEASE DEFERRING	**)**	**Case No. 2020-00064**
DEPRECIATION EXPENSES, ESTABLISH	**)**	
REGULATORY ASSETS, AMORTIZE REGULATORY	**)**	
ASSETS, AND OTHER APPROPRIATE RELIEF	**)**	

EXHIBIT SJB-1

Professional Qualifications

Of

Stephen J. Baron

Mr. Baron graduated from the University of Florida in l972 with a B.A. degree with high honors in Political Science and significant coursework in Mathematics and Computer Science. In 1974, he received a Master of Arts Degree in Economics, also from the University of Florida. His areas of specialization were econometrics, statistics, and public utility economics. His thesis concerned the development of an econometric model to forecast electricity sales in the State of Florida, for which he received a grant from the Public Utility Research Center of the University of Florida. In addition, he has advanced study and coursework in time series analysis and dynamic model building.

Mr. Baron has more than forty years of experience in the electric utility industry in the areas of cost and rate analysis, forecasting, planning, and economic analysis.

Following the completion of my graduate work in economics, he joined the staff of the Florida Public Service Commission in August of 1974 as a Rate Economist. His responsibilities included the analysis of rate cases for electric, telephone, and gas utilities, as well as the preparation of cross-examination material and the preparation of staff recommendations.

In December 1975, he joined the Utility Rate Consulting Division of Ebasco Services, Inc.

as an Associate Consultant. In the seven years he worked for Ebasco, he received successive promotions, ultimately to the position of Vice President of Energy Management Services of Ebasco Business Consulting Company. His responsibilities included the management of a staff of consultants engaged in providing services in the areas of econometric modeling, load and energy forecasting, production cost modeling, planning, cost-of-service analysis, cogeneration, and load management.

He joined the public accounting firm of Coopers & Lybrand in 1982 as a Manager of the Atlanta Office of the Utility Regulatory and Advisory Services Group. In this capacity he was responsible for the operation and management of the Atlanta office. His duties included the technical and administrative supervision of the staff, budgeting, recruiting, and marketing as well as project management on client engagements. At Coopers & Lybrand, he specialized in utility cost analysis, forecasting, load analysis, economic analysis, and planning.

In January 1984, he joined the consulting firm of Kennedy and Associates as a Vice President and Principal. Mr. Baron became President of the firm in January 1991.

He has presented numerous papers and published an article entitled "How to Rate Load Management Programs" in the March 1979 edition of "Electrical World." His article on "Standby Electric Rates" was published in the November 8, 1984 issue of "Public Utilities Fortnightly." In February of 1984, he completed a detailed analysis entitled "Load Data

Transfer Techniques" on behalf of the Electric Power Research Institute, which published the study.

Mr. Baron has presented testimony as an expert witness in Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Maryland, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, Wyoming, the Federal Energy Regulatory Commission and in United States Bankruptcy Court. A list of his specific regulatory appearances follows.

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
4/81	203(B)	KY	Louisville Gas & Electric Co.	Louisville Gas & Electric Co.	Cost-of-service.
4/81	ER-81-42	MO	Kansas City Power & Light Co.	Kansas City Power & Light Co.	Forecasting.
6/81	U-1933	AZ	Arizona Corporation Commission	Tucson Electric Co.	Forecasting planning.
2/84	8924	KY	Airco Carbide	Louisville Gas & Electric Co.	Revenue requirements, cost-of-service, forecasting, weather normalization.
3/84	84-038-U	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Excess capacity, cost-of-service, rate design.
5/84	830470-EI	FL	Florida Industrial Power Users' Group	Florida Power Corp.	Allocation of fixed costs, load and capacity balance, and reserve margin. Diversification of utility.
10/84	84-199-U	AR	Arkansas Electric Energy Consumers	Arkansas Power and Light Co.	Cost allocation and rate design.
11/84	R-842651	PA	Lehigh Valley Power Committee	Pennsylvania Power & Light Co.	Interruptible rates, excess capacity, and phase-in.
1/85	85-65	ME	Airco Industrial Gases	Central Maine Power Co.	Interruptible rate design.
2/85	I-840381	PA	Philadelphia Area Industrial Energy Users' Group	Philadelphia Electric Co.	Load and energy forecast.
3/85	9243	KY	Alcan Aluminum Corp., et al.	Louisville Gas & Electric Co.	Economics of completing fossil generating unit.
3/85	3498-U	GA	Attorney General	Georgia Power Co.	Load and energy forecasting, generation planning economics.
3/85	R-842632	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Generation planning economics, prudence of a pumped storage hydro unit.
5/85	84-249	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Cost-of-service, rate design return multipliers.
5/85		City of Santa Clara	Chamber of Commerce	Santa Clara Municipal	Cost-of-service, rate design.
6/85	84-768-E-42T	WV	West Virginia Industrial Intervenors	Monongahela Power Co.	Generation planning economics, prudence of a pumped storage hydro unit.

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
6/85	E-7 Sub 391	NC	Carolina Industrials (CIGFUR III)	Duke Power Co.	Cost-of-service, rate design, interruptible rate design.
7/85	29046	NY	Industrial Energy Users Association	Orange and Rockland Utilities	Cost-of-service, rate design.
10/85	85-043-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Regulatory policy, gas cost-of-service, rate design.
10/85	85-63	ME	Airco Industrial Gases	Central Maine Power Co.	Feasibility of interruptible rates, avoided cost.
2/85	ER-8507698	NJ	Air Products and Chemicals	Jersey Central Power & Light Co.	Rate design.
3/85	R-850220	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Optimal reserve, prudence, off-system sales guarantee plan.
2/86	R-850220	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Optimal reserve margins, prudence, off-system sales guarantee plan.
3/86	85-299U	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Cost-of-service, rate design, revenue distribution.
3/86	85-726-EL-AIR	OH	Industrial Electric Consumers Group	Ohio Power Co.	Cost-of-service, rate design, interruptible rates.
5/86	86-081-E-GI	WV	West Virginia Energy Users Group	Monongahela Power Co.	Generation planning economics, prudence of a pumped storage hydro unit.
8/86	E-7 Sub 408	NC	Carolina Industrial Energy Consumers	Duke Power Co.	Cost-of-service, rate design, interruptible rates.
10/86	U-17378	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Excess capacity, economic analysis of purchased power.
12/86	38063	IN	Industrial Energy Consumers	Indiana & Michigan Power Co.	Interruptible rates.
3/87	EL-86-53-001 EL-86-57-001	Federal Energy Regulatory Commission (FERC)	Louisiana Public Service Commission Staff	Gulf States Utilities, Southern Co.	Cost/benefit analysis of unit power sales contract.
4/87	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Load forecasting and imprudence damages, River Bend Nuclear unit.

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
5/87	87-023-E-C	WV	Airco Industrial Gases	Monongahela Power Co.	Interruptible rates.
5/87	87-072-E-G1	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Analyze Mon Power's fuel filing and examine the reasonableness of MP's claims.
5/87	86-524-E-SC	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Economic dispatching of pumped storage hydro unit.
5/87	9781	KY	Kentucky Industrial Energy Consumers	Louisville Gas & Electric Co.	Analysis of impact of 1986 Tax Reform Act.
6/87	3673-U	GA	Georgia Public Service Commission	Georgia Power Co.	Economic prudence, evaluation of Vogtle nuclear unit - load forecasting, planning.
6/87	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Phase-in plan for River Bend Nuclear unit.
7/87	85-10-22	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Methodology for refunding rate moderation fund.
8/87	3673-U	GA	Georgia Public Service Commission	Georgia Power Co.	Test year sales and revenue forecast.
9/87	R-850220	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Excess capacity, reliability of generating system.
10/87	R-870651	PA	Duquesne Industrial Intervenors	Duquesne Light Co.	Interruptible rate, cost-of-service, revenue allocation, rate design.
10/87	I-860025	PA	Pennsylvania Industrial Intervenors		Proposed rules for cogeneration, avoided cost, rate recovery.
10/87	E-015/ GR-87-223	MN	Taconite Intervenors	Minnesota Power & Light Co.	Excess capacity, power and cost-of-service, rate design.
10/87	8702-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Revenue forecasting, weather normalization.
12/87	87-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light Power Co.	Excess capacity, nuclear plant phase-in.
3/88	10064	KY	Kentucky Industrial Energy Consumers	Louisville Gas & Electric Co.	Revenue forecast, weather normalization rate treatment of cancelled plant.
3/88	87-183-TF	AR	Arkansas Electric Consumers	Arkansas Power & Light Co.	Standby/backup electric rates.

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
5/88	870171C001	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Cogeneration deferral mechanism, modification of energy cost recovery (ECR).
6/88	870172C005	PA	GPU Industrial Intervenors	Pennsylvania Electric Co.	Cogeneration deferral mechanism, modification of energy cost recovery (ECR).
7/88	88-171-EL-AIR 88-170-EL-AIR Interim Rate Case	OH	Industrial Energy Consumers	Cleveland Electric/ Toledo Edison	Financial analysis/need for interim rate relief.
7/88	Appeal of PSC	19th Judicial Docket U-17282	Louisiana Public Service Commission Circuit Court of Louisiana	Gulf States Utilities	Load forecasting, imprudence damages.
11/88	R-880989	PA	United States Steel	Carnegie Gas	Gas cost-of-service, rate design.
11/88	88-171-EL-AIR 88-170-EL-AIR	OH	Industrial Energy Consumers	Cleveland Electric/ Toledo Edison. General Rate Case.	Weather normalization of peak loads, excess capacity, regulatory policy.
3/89	870216/283 284/286	PA	Armco Advanced Materials Corp., Allegheny Ludlum Corp.	West Penn Power Co.	Calculated avoided capacity, recovery of capacity payments.
8/89	8555	TX	Occidental Chemical Corp.	Houston Lighting & Power Co.	Cost-of-service, rate design.
8/89	3840-U	GA	Georgia Public Service Commission	Georgia Power Co.	Revenue forecasting, weather normalization.
9/89	2087	NM	Attorney General of New Mexico	Public Service Co. of New Mexico	Prudence - Palo Verde Nuclear Units 1, 2 and 3, load fore-casting.
10/89	2262	NM	New Mexico Industrial Energy Consumers	Public Service Co. of New Mexico	Fuel adjustment clause, off-system sales, cost-of-service, rate design, marginal cost.
11/89	38728	IN	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Excess capacity, capacity equalization, jurisdictional cost allocation, rate design, interruptible rates.
1/90	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Jurisdictional cost allocation, O&M expense analysis.

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
5/90	890366	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Non-utility generator cost recovery.
6/90	R-901609	PA	Armco Advanced Materials Corp., Allegheny Ludlum Corp.	West Penn Power Co.	Allocation of QF demand charges in the fuel cost, cost-of-service, rate design.
9/90	8278	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost-of-service, rate design, revenue allocation.
12/90	U-9346 Rebuttal	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Demand-side management, environmental externalities.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, jurisdictional allocation.
12/90	90-205	ME	Airco Industrial Gases	Central Maine Power Co.	Investigation into interruptible service and rates.
1/91	90-12-03 Interim	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Interim rate relief, financial analysis, class revenue allocation.
5/91	90-12-03 Phase II	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Revenue requirements, cost-of-service, rate design, demand-side management.
8/91	E-7, SUB 487	NC	North Carolina Industrial Energy Consumers	Duke Power Co.	Revenue requirements, cost allocation, rate design, demand-side management.
8/91	8341 Phase I	MD	Westvaco Corp.	Potomac Edison Co.	Cost allocation, rate design, 1990 Clean Air Act Amendments.
8/91	91-372 EL-UNC	OH	Armco Steel Co., L.P.	Cincinnati Gas & Electric Co.	Economic analysis of cogeneration, avoid cost rate.
9/91	P-910511 P-910512	PA	Allegheny Ludlum Corp., Armco Advanced Materials Co., The West Penn Power Industrial Users' Group	West Penn Power Co.	Economic analysis of proposed CWIP Rider for 1990 Clean Air Act Amendments expenditures.
9/91	91-231 -E-NC	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Economic analysis of proposed CWIP Rider for 1990 Clean Air Act Amendments expenditures.
10/91	8341 - Phase II	MD	Westvaco Corp.	Potomac Edison Co.	Economic analysis of proposed CWIP Rider for 1990 Clean Air

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
					Act Amendments expenditures.
10/91	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Results of comprehensive management audit.
Note: No testimony was prefiled on this.					
11/91	U-17949 Subdocket A	LA	Louisiana Public Service Commission Staff	South Central Bell Telephone Co. and proposed merger with Southern Bell Telephone Co.	Analysis of South Central Bell's restructuring and
12/91	91-410-EL-AIR	OH	Armco Steel Co., Air Products & Chemicals, Inc.	Cincinnati Gas & Electric Co.	Rate design, interruptible rates.
12/91	P-880286	PA	Armco Advanced Materials Corp., Allegheny Ludlum Corp.	West Penn Power Co.	Evaluation of appropriate avoided capacity costs - QF projects.
1/92	C-913424	PA	Duquesne Interruptible Complainants	Duquesne Light Co.	Industrial interruptible rate.
6/92	92-02-19	CT	Connecticut Industrial Energy Consumers	Yankee Gas Co.	Rate design.
8/92	2437	NM	New Mexico Industrial Intervenors	Public Service Co. of New Mexico	Cost-of-service.
8/92	R-00922314	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Cost-of-service, rate design, energy cost rate.
9/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost-of-service, rate design, energy cost rate, rate treatment.
10/92	M-00920312 C-007	PA	The GPU Industrial Intervenors	Pennsylvania Electric Co.	Cost-of-service, rate design, energy cost rate, rate treatment.
12/92	U-17949	LA	Louisiana Public Service Commission Staff	South Central Bell Co.	Management audit.
12/92	R-00922378	PA	Armco Advanced Materials Co. The WPP Industrial Intervenors	West Penn Power Co.	Cost-of-service, rate design, energy cost rate, SO_2 allowance rate treatment.
1/93	8487	MD	The Maryland Industrial Group	Baltimore Gas & Electric Co.	Electric cost-of-service and rate design, gas rate design (flexible rates).
2/93	E002/GR-92-1185	MN	North Star Steel Co. Praxair, Inc.	Northern States Power Co.	Interruptible rates.

Expert Testimony Appearances
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Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
4/93	EC92 21000 ER92-806-000 (Rebuttal)	Federal Energy Regulatory Commission	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy agreement.	Merger of GSU into Entergy System; impact on system
7/93	93-0114-E-C	WV	Airco Gases	Monongahela Power Co.	Interruptible rates.
8/93	930759-EG	FL	Florida Industrial Power Users' Group	Generic - Electric Utilities	Cost recovery and allocation of DSM costs.
9/93	M-009 30406	PA	Lehigh Valley Power Committee	Pennsylvania Power & Light Co.	Ratemaking treatment of off-system sales revenues.
11/93	346	KY	Kentucky Industrial Utility Customers	Generic - Gas Utilities	Allocation of gas pipeline transition costs - FERC Order 636.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Nuclear plant prudence, forecasting, excess capacity.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Cost allocation, rate design, rate phase-in plan.
5/94	U-20178	LA	Louisiana Public Service Commission	Louisiana Power & Light Co.	Analysis of least cost integrated resource plan and demand-side management program.
7/94	R-00942986	PA	Armco, Inc.; West Penn Power Industrial Intervenors	West Penn Power Co.	Cost-of-service, allocation of rate increase, rate design, emission allowance sales, and operations and maintenance expense.
7/94	94-0035-E-42T	WV	West Virginia Energy Users Group	Monongahela Power Co.	Cost-of-service, allocation of rate increase, and rate design.
8/94	EC94 13-000	Federal Energy Regulatory Commission	Louisiana Public Service Commission	Gulf States Utilities/Entergy	Analysis of extended reserve shutdown units and violation of system agreement by Entergy.
9/94	R-00943 081 R-00943 081C0001	PA	Lehigh Valley Power Committee	Pennsylvania Public Utility Commission	Analysis of interruptible rate terms and conditions, availability.
9/94	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Evaluation of appropriate avoided cost rate.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Revenue requirements.

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
10/94	5258-U	GA	Georgia Public Service Commission	Southern Bell Telephone & Telegraph Co.	Proposals to address competition in telecommunication markets.
11/94	EC94-7-000 ER94-898-000	FERC	Louisiana Public Service Commission	El Paso Electric and Central and Southwest	Merger economics, transmission equalization hold harmless proposals.
2/95	941-430EG	CO	CF&I Steel, L.P.	Public Service Company of Colorado	Interruptible rates, cost-of-service.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Cost-of-service, allocation of rate increase, rate design, interruptible rates.
6/95	C-00913424 C-00946104	PA	Duquesne Interruptible Complainants	Duquesne Light Co.	Interruptible rates.
8/95	ER95-112 -000	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Open Access Transmission Tariffs - Wholesale.
10/95	U-21485	LA	Louisiana Public Service Commission	Gulf States Utilities Company	Nuclear decommissioning, revenue requirements, capital structure.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	System Energy Resources, Inc.	Nuclear decommissioning, revenue requirements.
10/95	U-21485	LA	Louisiana Public Service Commission	Gulf States Utilities Co.	Nuclear decommissioning and cost of debt capital, capital structure.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Retail competition issues.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Revenue requirement analysis.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Elec. Co., Potomac Elec. Power Co., Constellation Energy Co.	Ratemaking issues associated with a Merger.
8/96	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Decommissioning, weather normalization, capital structure.
2/97	R-973877	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Competitive restructuring policy issues, stranded cost, transition charges.

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
6/97	Civil Action No. 94-11474	US Bank-ruptcy Court Middle District of Louisiana	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Confirmation of reorganization plan; analysis of rate paths produced by competing plans.
6/97	R-973953	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Retail competition issues, rate unbundling, stranded cost analysis.
6/97	8738	MD	Maryland Industrial Group	Generic	Retail competition issues
7/97	R-973954	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Retail competition issues, rate unbundling, stranded cost analysis.
10/97	97-204	KY	Alcan Aluminum Corp. Southwire Co.	Big River Electric Corp.	Analysis of cost of service issues - Big Rivers Restructuring Plan
10/97	R-974008	PA	Metropolitan Edison Industrial Users	Metropolitan Edison Co.	Retail competition issues, rate unbundling, stranded cost analysis.
10/97	R-974009	PA	Pennsylvania Electric Industrial Customer	Pennsylvania Electric Co.	Retail competition issues, rate unbundling, stranded cost analysis.
11/97	U-22491	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Decommissioning, weather normalization, capital structure.
11/97	P-971265	PA	Philadelphia Area Industrial Energy Users Group	Enron Energy Services Power, Inc./ PECO Energy	Analysis of Retail Restructuring Proposal.
12/97	R-973981	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Retail competition issues, rate unbundling, stranded cost analysis.
12/97	R-974104	PA	Duquesne Industrial Intervenors	Duquesne Light Co.	Retail competition issues, rate unbundling, stranded cost analysis.
3/98 (Allocated Stranded Cost Issues)	U-22092	LA	Louisiana Public Service Commission	Gulf States Utilities Co.	Retail competition, stranded cost quantification.
3/98	U-22092	LA	Louisiana Public Service Commission	Gulf States Utilities, Inc.	Stranded cost quantification, restructuring issues.
9/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative, Inc.	Revenue requirements analysis, weather normalization.

Expert Testimony Appearances
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Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
12/98	8794	MD	Maryland Industrial Group and Millennium Inorganic Chemicals Inc.	Baltimore Gas and Electric Co.	Electric utility restructuring, stranded cost recovery, rate unbundling.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Nuclear decommissioning, weather normalization, Entergy System Agreement.
5/99 (Cross-Answering Testimony)	EC-98-40-000	FERC	Louisiana Public Service Commission	American Electric Power Co. & Central South West Corp.	Merger issues related to market power mitigation proposals.
5/99 (Response Testimony)	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co.	Performance based regulation, settlement proposal issues, cross-subsidies between electric. And gas services.
6/99	98-0452	WV	West Virginia Energy Users Group	Appalachian Power, Monongahela Power, & Potomac Edison Companies	Electric utility restructuring, stranded cost recovery, rate unbundling.
7/99	99-03-35	CT	Connecticut Industrial \Energy Consumers	United Illuminating Company	Electric utility restructuring, stranded cost recovery, rate unbundling.
7/99	Adversary Proceeding No. 98-1065	U.S. Bankruptcy Court	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Motion to dissolve preliminary injunction.
7/99	99-03-06	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Electric utility restructuring, stranded cost recovery, rate unbundling.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Nuclear decommissioning, weather normalization, Entergy System Agreement.
12/99	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative, Inc.	Ananlysi of Proposed Contract Rates, Market Rates.
03/00	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative, Inc.	Evaluation of Cooperative Power Contract Elections
03/00	99-1658-EL-ETP	OH	AK Steel Corporation	Cincinnati Gas & Electric Co.	Electric utility restructuring, stranded cost recovery, rate Unbundling.

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Date	Case	Jurisdict.	Party	Utility	Subject
08/00	98-0452 E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co. American Electric Co.	Electric utility restructuring rate unbundling.
08/00	00-1050 E-T 00-1051-E-T	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Electric utility restructuring rate unbundling.
09/00	00-1178-E-T	WV	West Virginia Energy Users Group	Appalachian Power Co. Wheeling Power Co.	Electric utility restructuring rate unbundling
10/00	SOAH 473-00-1020 PUC 2234	TX	The Dallas-Fort Worth Hospital Council and The Coalition of Independent Colleges And Universities	TXU, Inc.	Electric utility restructuring rate unbundling.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Nuclear decommissioning, revenue requirements.
12/00	EL00-66-000 & ER00-2854 EL95-33-002	LA	Louisiana Public Service Commission	Entergy Services Inc.	Inter-Company System Agreement: Modifications for retail competition, interruptible load.
04/01	U-21453, U-20925, U-22092 (Subdocket B) Addressing Contested Issues	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Jurisdictional Business Separation - Texas Restructuring Plan
10/01	14000-U	GA	Georgia Public Service Commission Adversary Staff	Georgia Power Co.	Test year revenue forecast.
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Nuclear decommissioning requirements transmission revenues.
11/01	U-25965	LA	Louisiana Public Service Commission	Generic .	Independent Transmission Company ("Transco"). RTO rate design.
03/02	001148-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Company	Retail cost of service, rate design, resource planning and demand side management.
06/02	U-25965	LA	Louisiana Public Service Commission	Entergy Gulf States Entergy Louisiana	RTO Issues
07/02	U-21453	LA	Louisiana Public Service Commission	SWEPCO, AEP	Jurisdictional Business Sep. - Texas Restructuring Plan.

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08/02	U-25888	LA	Louisiana Public Service Commission	Entergy Louisiana, Inc. Entergy Gulf States, Inc.	Modifications to the Inter-Company System Agreement, Production Cost Equalization.
08/02	EL01-88-000	FERC	Louisiana Public Service Commission	Entergy Services Inc. and the Entergy Operating Companies	Modifications to the Inter-Company System Agreement, Production Cost Equalization.
11/02	02S-315EG	CO	CF&I Steel & Climax Molybdenum Co.	Public Service Co. of Colorado	Fuel Adjustment Clause
01/03	U-17735	LA	Louisiana Public Service Commission	Louisiana Coops	Contract Issues
02/03	02S-594E	CO	Cripple Creek and Victor Gold Mining Co.	Aquila, Inc.	Revenue requirements, purchased power.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Weather normalization, power purchase expenses, System Agreement expenses.
11/03	ER03-753-000	FERC	Louisiana Public Service Commission Staff	Entergy Services, Inc. and the Entergy Operating Companies	Proposed modifications to System Agreement Tariff MSS-4.
11/03	ER03-583-000 ER03-583-001 ER03-583-002 ER03-681-000, ER03-681-001 ER03-682-000, ER03-682-001 ER03-682-002	FERC	Louisiana Public Service Commission	Entergy Services, Inc., the Entergy Operating Companies, EWO Market-Ing, L.P, and Entergy Power, Inc.	Evaluation of Wholesale Purchased Power Contracts.
12/03	U-27136	LA	Louisiana Public Service Commission	Entergy Louisiana, Inc.	Evaluation of Wholesale Purchased Power Contracts.
01/04	E-01345-03-0437	AZ	Kroger Company	Arizona Public Service Co.	Revenue allocation rate design.
02/04	00032071	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Provider of last resort issues.
03/04	03A-436E	CO	CF&I Steel, LP and Climax Molybedenum	Public Service Company of Colorado	Purchased Power Adjustment Clause.

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04/04	2003-00433 2003-00434	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service Rate Design
0-6/04	03S-539E	CO	Cripple Creek, Victor Gold Mining Co., Goodrich Corp., Holcim (U.S.,), Inc., and The Trane Co.	Aquila, Inc.	Cost of Service, Rate Design Interruptible Rates
06/04	R-00049255	PA	PP&L Industrial Customer Alliance PPLICA	PPL Electric Utilities Corp.	Cost of service, rate design, tariff issues and transmission service charge.
10/04	04S-164E	CO	CF&I Steel Company, Climax Mines	Public Service Company of Colorado	Cost of service, rate design, Interruptible Rates.
03/05	Case No. 2004-00426 Case No. 2004-00421	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Louisville Gas & Electric Co.	Environmental cost recovery.
06/05	050045-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Company	Retail cost of service, rate design
07/05	U-28155	LA	Louisiana Public Service Commission Staff	Entergy Louisiana, Inc. Entergy Gulf States, Inc.	Independent Coordinator of Transmission – Cost/Benefit
09/05	Case Nos. 05-0402-E-CN 05-0750-E-PC	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Environmental cost recovery, Securitization, Financing Order
01/06	2005-00341	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Cost of service, rate design, transmission expenses. Congestion Cost Recovery Mechanism
03/06	U-22092	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Separation of EGSI into Texas and Louisiana Companies.
03/06	05-1278-E-PC -PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. Wheeling Power Co.	Retail cost of service, rate design.
04/06	U-25116	LA	Louisiana Public Service Commission Staff	Entergy Louisiana, Inc.	Transmission Prudence Investigation
06/06	R-00061346 C0001-0005	PA	Duquesne Industrial Intervenors & IECPA	Duquesne Light Co.	Cost of Service, Rate Design, Transmission Service Charge, Tariff Issues
06/06	R-00061366 R-00061367 P-00062213 P-00062214		Met-Ed Industrial Energy Users Group and Penelec Industrial Customer Alliance	Metropolitan Edison Co. Pennsylvania Electric Co.	Generation Rate Cap, Transmission Service Charge, Cost of Service, Rate Design, Tariff Issues
07/06	U-22092 Sub-J	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Separation of EGSI into Texas and Louisiana Companies.

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07/06	Case No. 2006-00130 Case No. 2006-00129	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Louisville Gas & Electric Co.	Environmental cost recovery.
08/06	Case No. PUE-2006-00065	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Co.	Cost Allocation, Allocation of Rev Incr, Off-System Sales margin rate treatment
09/06	E-01345A-05-0816	AZ	Kroger Company	Arizona Public Service Co.	Revenue allocation, cost of service, rate design.
11/06	Doc. No. 97-01-15RE02	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power United Illuminating	Rate unbundling issues.
01/07	Case No. 06-0960-E-42T	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Retail Cost of Service Revenue apportionment
03/07	U-29764	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc. Entergy Louisiana, LLC	Implementation of FERC Decision Jurisdictional & Rate Class Allocation
05/07	Case No. 07-63-EL-UNC	OH	Ohio Energy Group	Ohio Power, Columbus Southern Power	Environmental Surcharge Rate Design
05/07	R-00049255 Remand	PA	PP&L Industrial Customer Alliance PPLICA	PPL Electric Utilities Corp.	Cost of service, rate design, tariff issues and transmission service charge.
06/07	R-00072155	PA	PP&L Industrial Customer Alliance PPLICA	PPL Electric Utilities Corp.	Cost of service, rate design, tariff issues.
07/07	Doc. No. 07F-037E	CO	Gateway Canyons LLC	Grand Valley Power Coop.	Distribution Line Cost Allocation
09/07	Doc. No. 05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
11/07	ER07-682-000	FERC	Louisiana Public Service Commission Staff	Entergy Services, Inc. and the Entergy Operating Companies	Proposed modifications to System Agreement Schedule MSS-3. Cost functionalization issues.
1/08	Doc. No. 20000-277-ER-07	WY	Cimarex Energy Company	Rocky Mountain Power (PacifiCorp)	Vintage Pricing, Marginal Cost Pricing Projected Test Year
1/08	Case No. 07-551	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Class Cost of Service, Rate Restructuring, Apportionment of Revenue Increase to Rate Schedules
2/08	ER07-956	FERC	Louisiana Public Service Commission Staff	Entergy Services, Inc. and the Entergy Operating Companies	Entergy's Compliance Filing System Agreement Bandwidth Calculations.
2/08	Doc No. P-00072342	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Default Service Plan issues.
3/08	Doc No. E-01933A-05-0650	AZ	Kroger Company	Tucson Electric Power Co.	Cost of Service, Rate Design

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05/08	08-0278 E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co. American Electric Power Co.	Expanded Net Energy Cost "ENEC" Analysis.
6/08	Case No. 08-124-EL-ATA	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Recovery of Deferred Fuel Cost
7/08	Docket No. 07-035-93	UT	Kroger Company	Rocky Mountain Power Co.	Cost of Service, Rate Design
08/08	Doc. No. 6680-UR-116	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Power and Light Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
09/08	Doc. No. 6690-UR-119	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Public Service Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
09/08	Case No. 08-936-EL-SSO	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Provider of Last Resort Competitive Solicitation
09/08	Case No. 08-935-EL-SSO	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Provider of Last Resort Rate Plan
09/08	Case No. 08-917-EL-SSO 08-918-EL-SSO	OH	Ohio Energy Group	Ohio Power Company Columbus Southern Power Co.	Provider of Last Resort Rate Plan
10/08	2008-00251 2008-00252	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service, Rate Design
11/08	08-1511 E-GI	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost "ENEC" Analysis.
11/08	M-2008-2036188, M-2008-2036197	PA	Met-Ed Industrial Energy Users Group and Penelec Industrial Customer Alliance	Metropolitan Edison Co. Pennsylvania Electric Co.	Transmission Service Charge
01/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Entergy's Compliance Filing System Agreement Bandwidth Calculations.
01/09	E-01345A-08-0172	AZ	Kroger Company	Arizona Public Service Co.	Cost of Service, Rate Design
02/09	2008-00409	KY	Kentucky Industrial Utility Customers, Inc.	East Kentucky Power Cooperative, Inc.	Cost of Service, Rate Design
5/09	PUE-2009 -00018	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Transmission Cost Recovery Rider
5/09	09-0177-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Company	Expanded Net Energy Cost "ENEC" Analysis
6/09	PUE-2009 -00016	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Fuel Cost Recovery Rider

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6/09	PUE-2009 -00038	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Company	Fuel Cost Recovery Rider
7/09	080677-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Company	Retail cost of service, rate design
8/09	U-20925 (RRF 2004)	LA	Louisiana Public Service Commission Staff	Entergy Louisiana LLC	Interruptible Rate Refund Settlement
9/09	09AL-299E	CO	CF&I Steel Company Climax Molybdenum	Public Service Company of Colorado	Energy Cost Rate issues
9/09	Doc. No. 05-UR-104	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
9/09	Doc. No. 6680-UR-117	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Power and Light Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
10/09	Docket No. 09-035-23	UT	Kroger Company	Rocky Mountain Power Co.	Cost of Service, Allocation of Rev Increase
10/09	09AL-299E	CO	CF&I Steel Company Climax Molybdenum	Public Service Company of Colorado	Cost of Service, Rate Design
11/09	PUE-2009 -00019	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Cost of Service, Rate Design
11/09	09-1485 E-P	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost "ENEC" Analysis.
12/09	Case No. 09-906-EL-SSO	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Provider of Last Resort Rate Plan
12/09	ER09-1224	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Entergy's Compliance Filing System Agreement Bandwidth Calculations.
12/09	Case No. PUE-2009-00030	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Co.	Cost Allocation, Allocation of Rev Increase, Rate Design
2/10	Docket No. 09-035-23	UT	Kroger Company	Rocky Mountain Power Co.	Rate Design
3/10	Case No. 09-1352-E-42T	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Retail Cost of Service Revenue apportionment
3/10	E015/ GR-09-1151	MN	Large Power Intervenors	Minnesota Power Co.	Cost of Service, rate design
4/10	EL09-61	FERC	Louisiana Public Service Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	System Agreement Issues Related to off-system sales
4/10	2009-00459	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Cost of service, rate design, transmission expenses.

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4/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service, Rate Design
7/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Cost of Service, Rate Design
09/10	2010-00167	KY	Kentucky Industrial Utility Customers, Inc.	East Kentucky Power Cooperative, Inc.	Cost of Service, Rate Design
09/10	10M-245E	CO	CF&I Steel Company Climax Molybdenum	Public Service Company of Colorado	Economic Impact of Clean Air Act
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Cost of Service, Rate Design, Transmission Rider
11/10	Doc. No. 4220-UR-116	WI	Wisconsin Industrial Energy Group, Inc.	Northern States Power Co. Wisconsin	Cost of Service, rate design
12/10	10A-554EG	CO	CF&I Steel Company Climax Molybdenum	Public Service Company	Demand Side Management Issues
12/10	10-2586-EL-SSO	OH	Ohio Energy Group	Duke Energy Ohio	Provider of Last Resort Rate Plan Electric Security Plan
3/11	20000-384-ER-10	WY	Wyoming Industrial Energy Consumers	Rocky Mountain Power Wyoming	Electric Cost of Service, Revenue Apportionment, Rate Design
5/11	2011-00036	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Cost of Service, Rate Design
6/11	Docket No. 10-035-124	UT	Kroger Company	Rocky Mountain Power Co.	Class Cost of Service
6/11	PUE-2011-00045	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Fuel Cost Recovery Rider
07/11	U-29764	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc. Entergy Louisiana, LLC	Entergy System Agreement - Successor Agreement, Revisions, RTO Day 2 Market Issues
07/11	Case Nos. 11-346-EL-SSO 11-348-EL-SSO	OH	Ohio Energy Group	Ohio Power Company Columbus Southern Power Co.	Electric Security Rate Plan, Provider of Last Resort Issues
08/11	PUE-2011-00034	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Co.	Cost Allocation, Rate Recovery of RPS Costs
09/11	2011-00161 2011-00162	KY	Kentucky Industrial Utility	Louisville Gas & Electric Co. Kentucky Utilities Company	Environmental Cost Recovery
09/11	Case Nos. 11-346-EL-SSO 11-348-EL-SSO	OH	Ohio Energy Group	Ohio Power Company Columbus Southern Power Co.	Electric Security Rate Plan, Stipulation Support Testimony
10/11	11-0452 E-P-T	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Energy Efficiency/Demand Reduction Cost Recovery

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11/11	11-1272 E-P	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost "ENEC" Analysis
11/11	E-01345A- 11-0224	AZ	Kroger Company	Arizona Public Service Co.	Decoupling
12/11	E-01345A- 11-0224	AZ	Kroger Company	Arizona Public Service Co.	Cost of Service, Rate Design
3/12	Case No. 2011-00401	KY	Kentucky Industrial Utility Consumers	Kentucky Power Company	Environmental Cost Recovery
4/12	2011-00036 Rehearing Case	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Cost of Service, Rate Design
5/12	2011-346 2011-348	OH	Ohio Energy Group	Ohio Power Company	Electric Security Rate Plan Interruptible Rate Issues
6/12	PUE-2012 -00051	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Company	Fuel Cost Recovery Rider
6/12	12-00012 12-00026	TN	Eastman Chemical Co. Air Products and Chemicals, Inc.	Kingsport Power Company	Demand Response Programs
6/12	Docket No. 11-035-200	UT	Kroger Company	Rocky Mountain Power Co.	Class Cost of Service
6/12	12-0275- E-GI	WV	West Virginia Energy Users Group	Appalachian Power Company	Energy Efficiency Rider
6/12	12-0399- E-P	WV	West Virginia Energy Users Group	Appalachian Power Company	Expanded Net Energy Cost ("ENEC")
7/12	120015-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Company	Retail cost of service, rate design
7/12	2011-00063	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Environmental Cost Recovery
8/12	Case No. 2012-00226	KY	Kentucky Industrial Utility Consumers	Kentucky Power Company	Real Time Pricing Tariff
9/12	ER12-1384	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Entergy System Agreement, Cancelled Plant Cost Treatment
9/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service, Rate Design
11/12	12-1238 E-GI	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost Recovery Issues
12/12	U-29764	LA	Louisiana Public Service Commission Staff	Entergy Gulf States Louisiana	Purchased Power Contracts
12/12	EL09-61	FERC	Louisiana Public Service Service Commission	Entergy Services, Inc. and the Entergy Operating	System Agreement Issues Related to off-system sales

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				Companies	Damages Phase
12/12	E-01933A-12-0291	AZ	Kroger Company	Tucson Electric Power Co.	Decoupling
1/13	12-1188 E-PC	WV	West Virginia Energy Users Group	Appalachian Power Company	Securitization of ENEC Costs
1/13	E-01933A-12-0291	AZ	Kroger Company	Tucson Electric Power Co.	Cost of Service, Rate Design
4/13	12-1571 E-PC	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Generation Resource Transition Plan Issues
4/13	PUE-2012 -00141	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Company	Generation Asset Transfer Issues
6/13	12-1655 E-PC/11-1775 -E-P	WV	West Virginia Energy Users Group	Appalachian Power Company	Generation Asset Transfer Issues
06/13	U-32675	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc. Entergy Louisiana, LLC	MISO Joint Implementation Plan Issues
7/13	130040-EI	FL	WCF Health Utility Alliance	Tampa Electric Company	Cost of Service, Rate Design
7/13	13-0467-E-P	WV	West Virginia Energy Users Group	Appalachian Power Company	Expanded Net Energy Cost ("ENEC")
7/13	13-0462-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Company	Energy Efficiency Issues
8/13	13-0557-E-P	WV	West Virginia Energy Users Group	Appalachian Power Company	Right-of-Way, Vegetation Control Cost Recovery Surcharge Issues
10/13	2013-00199	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Ratemaking Policy Associated with Rural Economic Reserve Funds
10/13	13-0764-E-CN	WV	West Virginia Energy Users Group	Appalachian Power Company	Rate Recovery Issues – Clinch River Gas Conversion Project
11/13	R-2013-2372129	PA	United States Steel Corporation	Duquesne Light Company	Cost of Service, Rate Design
11/13	13A-0686EG	CO	CF&I Steel Company Climax Molybdenum	Public Service Company of Colorado	Demand Side Management Issues
11/13	13-1064-E-P	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Right-of-Way, Vegetation Control Cost Recovery Surcharge Issues
4/14	ER-432-002	FERC	Louisiana Public Service Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	System Agreement Issues Related to Union Pacific Railroad Litigation Settlement
5/14	2013-2385 2013-2386	OH	Ohio Energy Group	Ohio Power Company	Electric Security Rate Plan Interruptible Rate Issues

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5/14	14-0344- E-GI	WV	West Virginia Energy Users Group	Appalachian Power Company	Expanded Net Energy Cost ("ENEC")
5/14	14-0345- E-PC	WV	West Virginia Energy Users Group	Appalachian Power Company	Energy Efficiency Issues
5/14	Docket No. 13-035-184	UT	Kroger Company	Rocky Mountain Power Co.	Class Cost of Service
7/14	PUE-2014 -00007	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Company	Renewable Portfolio Standard Rider Issues
7/14	ER13-2483	FERC	Bear Island Paper WB LLC	Old Dominion Electric Cooperative	Cost of Service, Rate Design Issues
8/14	14-0546- E-PC	WV	West Virginia Energy Users Group	Appalachian Power Company	Rate Recovery Issues – Mitchell Asset Transfer
8/14	PUE-2014 -00026	VA	Old Dominion Committee	Appalachian Power Company	Biennial Review Case - Cost of Service Issues
9/14	14-841-EL- SSO	OH	Ohio Energy Group	Duke Energy Ohio	Electric Security Rate Plan Standard Service Offer
10/14	14-0702- E-42T	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Cost of Service, Rate Design
11/14	14-1550- E-P	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost ("ENEC")
12/14	EL14-026	SD	Black Hills Power Industrial Intervenors	Black Hills Power, Inc.	Cost of Service Issues
12/14	14-1152- E-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Cost of Service, Rate Design transmission, lost revenues
2/15	14-1297 EI-SS0	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Electric Security Rate Plan Standard Service Offer
3/15	2014-00396	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Cost of service, rate design, transmission expenses.
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service, Rate Design
5/15	EL10-65	FERC	Louisiana Public Service Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	System Agreement Issues Related to Interruptible load
5/15	15-0301- E-GI	WV	West Virginia Energy Users Group	Appalachian Power Company	Expanded Net Energy Cost ("ENEC")
5/15	15-0303- E-P	WV	West Virginia Energy Users Group	Appalachian Power Company, Wheeling Power Co.	Energy Efficiency/Demand Response

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6/15	14-1580-EL-RDR	OH	Ohio Energy Group	Duke Energy Ohio	Energy Efficiency Rider Issues
7/15	EL10-65	FERC	Louisiana Public Service Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	System Agreement Issues Related to Off-System Sales and Bandwidth Tariff
8/15	PUE-2015 -00034	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Company	Renewable Portfolio Standard Rider Issues
8/15	87-0669-E-P	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Cost of Service, Rate Design
11/15	D2015-6.51	MT	Montana Large Customer Group	Montana Dakota Utilities Co.	Class Cost of Service, Rate Design
11/15	15-1351-E-P	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost (“ENEC”)
3/16	EL01-88 Remand	FERC	Louisiana Public Service Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	System Agreement Issues Related to Bandwidth Tariff
5/16	16-0239-E-ENEC	WV	West Virginia Energy Users Group	Appalachian Power Company	Expanded Net Energy Cost (“ENEC”)
6/16	E-01933A-15-0322	AZ	Kroger Company	Tucson Electric Power Co.	Cost of Service, Rate Design
6/16	16-00001	TN	East Tennessee Energy Consumers	Kingsport Power Co.	Cost of Service, Rate Design
6/16	14-1297-EL-SS0-Rehearing	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Electric Security Rate Plan Standard Service Offer
06/16	15-1734-E-T-PC	WV	West Virginia Energy Users Group	Appalachian Power Company, Wheeling Power Co.	Demand Response Rider
7/16	160021-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Company	Retail cost of service, rate design
7/16	16AL-0048E	CO	CF&I.Steel LP Climax Molybdenum	Public Service Company of Colorado	Cost of Service, Rate Design
7/16	16-0403-E-P	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Energy Efficiency/Demand Response
10/16	16-1121-E-ENEC	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost (“ENEC”)
11/16	16-0395-EL-SSO	OH	Ohio Energy Group	Dayton Power & Light	Electric Security Rate Plan
11/16	EL09-61-004 Remand	FERC	Louisiana Public Service Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	System Agreement Issues Related to off-system sales Damages Phase

**Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020**

Date	Case	Jurisdict.	Party	Utility	Subject
12/16	1139	D.C.	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of Service, Rate Design
1/17	E-01345A-16-0036	AZ	Kroger	Arizona Public Service Co.	Cost of Service, Rate Design
2/17	16-1026-E-PC	WV	West Virginia Energy Users Group	Appalachian Power Co.	Wind Project Purchase Power Agreement
3/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service, Rate Design
5/17	16-1852	OH	Ohio Energy Group	Ohio Power Company	Electric Security Rate Plan Interruptible Rate Issues
7/17	17-00032	TN	East Tennessee Energy Consumers	Kingsport Power Co.	Vegetation Management Cost Recovery
8/17	17-0631-E-P	WV	West Virginia Energy Users Group	Monongahela Power Co.	Electric Energy Purchase Agreement
8/17	17-0296-E-PC	WV	West Virginia Energy Users Group	Monongahela Power Co.	Generation Resource Asset Transfer
9/17	2017-0179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Cost of service, rate design, transmission cost recover.
9/17	17-0401 E-P	WV	West Virginia Energy Users Group	Appalachian Power Company	Energy Efficiency Issues
12/17	17-0894-E-PC	WV	West Virginia Energy Users Group	Appalachian Power Co.	Wind Project Asset Purchase
5/18	1150/ 1151	D.C.	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of Service, Rate Design Tax Cut and Jobs Act Issues
6/18	17-00143	TN	East Tennessee Energy Consumers	Kingsport Power Co.	Storm Damage Rider Cost Recovery
7/18	18-0503-E-ENEC	WV	West Virginia Energy Users Group	Appalachian Power Company	Expanded Net Energy Cost (“ENEC”)
7/18	18-0504-E-P	WV	West Virginia Energy Users Group	Appalachian Power Company	Vegetation Management Cost Recovery
7/18	G.O.236.1	WV	West Virginia Energy Users Group	Appalachian Power Company	Tax Cut and Jobs Act Issues
7/18	G.O.236.1	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Tax Cut and Jobs Act Issues
10/18	18-0646-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Cost of Service, Rate Design TCJA issues
10/18	18-00038	TN	East Tennessee Energy Consumers	Kingsport Power Co.	Tax Cut and Jobs Act Issues

Expert Testimony Appearances
of
Stephen J. Baron
As of February 2020

Date	Case	Jurisdict.	Party	Utility	Subject
11/18	18-1231- E-ENEC	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost ("ENEC")
11/18	2018-00054	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Company	Tax Cut and Jobs Act Issues
12/18	2018-00134	VA	Collegiate Clean Energy	Appalachian Power Company	Competitive Service Provider Issues
1/19	2018-00294 2018-00295	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service, Rate Design
1/19	2018-00101	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Cost of Service
2/19	UD-18-07	City of New Orleans	Crescent City Power Users Group	Entergy New Orleans	Cost of Service, Rate Design
4/19	42310	GA	Georgia Public Service Commission Staff	Georgia Power Company	2019 Integrated Resource Plan Optimal Reserve Margin Issues
7/19	19-0396 E-P	WV	West Virginia Energy Users Group	Appalachian Power Company	Energy Efficiency Issues
10/19	19-0387 E-PC	WV	West Virginia Energy Users Group	Appalachian Power Company	Economic Development Fund
10/19	19-0564 E-T	WV	West Virginia Energy Users Group	Appalachian Power Company	Mitchell Generating Plant Surcharge
10/19	E-01933A- 19-0028	AZ	Kroger Company	Tucson Electric Power Co.	Cost of Service, Rate Design
11/19	19-0785 E-ENEC	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost ("ENEC")
11/19	2018-00101	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Cost of Service
11/22	2019-00170 -UT	NM	COG Operating, LLC	Southwestern Public Service Co.	Cost of Service, Rate Design
12/19	19-1028 E-PC	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	PURPA Contract Buy-out

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF BIG RIVERS ELECTRIC	)	
CORPORATION FOR APPROVAL TO MODIFY	)	
ITS MRSM TARIFF, CEASE DEFERRING	)	**Case No. 2020-00064**
DEPRECIATION EXPENSES, ESTABLISH	)	
REGULATORY ASSETS, AMORTIZE REGULATORY	)	
ASSETS, AND OTHER APPROPRIATE RELIEF	)	

EXHIBIT SJB-2

J. Kennedy and Associates, Inc.

DEVELOPMENT OF FUNCTIONALIZED PRODUCTION ENERGY COST/UNIT ENERGY COST - 2013 RATE CASE

Line	Description	Name	Functional Vector	2013-00199 (ALCAN CASE) Total System	Production Energy
	Operation and Maintenance Expenses				
	Steam Power Generation Operation Expenses				
1	500 OPERATION SUPERVISION & ENGINEERING	OM500	PROFIX	$ 3,007,988	-
2	501 FUEL	OM501	Energy	$ 91,471,119	91,471,119
3	502 STEAM EXPENSES	OM502	PROFIX	$ 21,174,678	-
4	505 ELECTRIC EXPENSES	OM505	PROFIX	$ 5,963,270	-
5	506 MISC. STEAM POWER EXPENSES	OM506	PROFIX	$ 4,078,186	-
6	507 RENTS	OM507	PROFIX	$ -	-
7	509 ALLOWANCES	OM509	Energy	$ 17,674	17,674
8	Total Steam Power Operation Expenses			$ 125,712,914	$ 91,488,793
	Steam Power Generation Maintenance Expenses				
9	510 MAINTENANCE SUPERVISION & ENGINEERING	OM510	Energy	$ 2,763,175	2,763,175
10	511 MAINTENANCE OF STRUCTURES	OM511	PROFIX	$ 2,193,202	-
11	512 MAINTENANCE OF BOILER PLANT	OM512	Energy	$ 17,108,406	17,108,406
12	513 MAINTENANCE OF ELECTRIC PLANT	OM513	Energy	$ 3,584,767	3,584,767
13	514 MAINTENANCE OF MISC STEAM PLANT	OM514	PROFIX	$ 1,437,608	-
14	Total Steam Power Generation Maintenance Expense			$ 27,087,159	$ 23,456,348
15	Total Steam Power Generation Expense			$ 152,800,073	$ 114,945,141
	Other Power Generation Operation Expense				
16	546 OPERATION SUPERVISION & ENGINEERING	OM546	PROFIX		-
17	547 FUEL	OM547	Energy		-
18	548 GENERATION EXPENSE	OM548	PROFIX	$ 36,837	-
19	549 MISC OTHER POWER GENERATION	OM549	PROFIX		-
20	550 RENTS	OM550	PROFIX		-
21	Total Other Power Generation Expenses			$ 36,837	$ -
	Other Power Generation Maintenance Expense				
22	551 MAINTENANCE SUPERVISION & ENGINEERING	OM551	Energy		-
23	552 MAINTENANCE OF STRUCTURES	OM552	PROFIX		-
24	553 MAINTENANCE OF GENERATING & ELEC PLANT	OM553	Energy		-
25	554 MAINTENANCE OF MISC OTHER POWER GEN PLT	OM554	PROFIX		-
23	Total Other Power Generation Maintenance Expense			$ -	$ -
24	Total Other Power Generation Expense			$ 36,837	$ -
25	Total Station Expense			$ 152,836,910	$ 114,945,141
	Other Power Supply Expenses				
26	555 PURCHASED POWER Energy	OM555	OMPP	$ 9,476,864	9,476,864
27	555 PURCHASED POWER Demand	OMD555	OMPPD	$ -	-
28	555 PURCHASED POWER BREC Share of HMP&L Station Two	OMH555	OMPPH	$ 70,610,388	51,247,861
29	555 PURCHASED POWER OPTIONS	OMO555	OMPP	$ -	-
30	555 BROKERAGE FEES	OMB555	OMPP	$ -	-
31	555 MISO TRANSMISSION EXPENSES	OMM555	OMPP	$ -	-
32	556 SYSTEM CONTROL AND LOAD DISPATCH	OM556	PROFIX	$ -	-
33	557 OTHER EXPENSES	OM557	PROFIX	$ 5,163,160	-
34	558 DUPLICATE CHARGES	OM558	Energy	$ -	-

DEVELOPMENT OF FUNCTIONALIZED PRODUCTION ENERGY COST/UNIT ENERGY COST - 2013 RATE CASE

Line	Description	Name	Functional Vector	2013-00199 (ALCAN CASE) Total System	Production Energy
35	Total Other Power Supply Expenses	TPP		$ 85,250,413	$ 60,724,725
	Customer Service Expense				
36	908 CUSTOMER ASSISTANCE EXPENSES	OM908	TUP	$ 1,293,291	-
37	909 INFORMATIONAL AND INSTRUCTIONA	OM909	TUP	$ 31,897	-
38	913 ADVERTISING EXPENSES	OM913	TUP	$ 143,537	-
38	Total Customer Service Expense	OMCS		$ 1,468,725	$ -
39	Sub-Total Prod, Trans, Dist, Cust Acct and Cust Service				$ 175,669,866
	Administrative and General Expense				
40	920 ADMIN. & GEN. SALARIES-	OM920	LBSUB9	$ 13,444,105	4,626,857
41	921 OFFICE SUPPLIES AND EXPENSES	OM921	LBSUB9	$ 8,876,103	3,054,756
42	923 OUTSIDE SERVICES EMPLOYED	OM923	LBSUB9	$ 4,081,955	1,404,826
43	926 EMPLOYEE BENEFITS	OM926	LBSUB9	$ 398,481	137,139
44	930 MISCELLANEOUS GENERAL EXPENSES	OM930	LBSUB9	$ 1,657,246	570,350
45	931 RENTS AND LEASES	OM931	PGP	$ 1,933	-
46	935 MAINTENANCE OF GENERAL PLANT	OM935	PGP	$ 217,906	-
47	Total Administrative and General Expense	OMAG		$ 28,677,728	$ 9,793,928
48	Total Operation and Maintenance Expenses	TOM			$ 185,463,795
49	Operation and Maintenance Expenses Less Purchased Power	OMLPP			$ 84,498,137
50	Cash Working Capital - Operation and Maintenance Expenses				10,562,267
51	Total System ROR after Proposed Rate Increase - 2013-00199				4.03%
52	Revenue Requirement for Cash Working Capital				425,315
53	Total Revenue Requirements Classified as Energy				$ 185,889,110
54	TOTAL REGULAR SALES TO MEMBER COOPERATIVES (kWh)				3,291,731,000
	UNIT COSTS AS CALCULATED AND PRESENTED IN 2013-00199				
55	Average Steam Production Cost ($/mWh) - PSC 2-30				34.919
56	Unadjusted Unit Cost Calculation ($/mWh) - PSC 2-33				56.472
	CORRECTIONS TO REFLECT OFF-SYSTEM SALES				
57	Credit Revenue from Total Special Sales (Non-member)				(57,983,831)
58	Add back Special Sales - Capacity				
59	Net Revenue Requirement applicable to Member Sales				127,905,279
60	Adjusted Unit Energy Cost ($/mWh)				38.857
	ADJUSTMENTS TO CREDIT RIDER REVENUES COLLECTED ON AN ENERGY BASIS				
61	FAC Revenues				(19,581,659)
62	ES O&M Expense Included in Energy Revenue Requirements (Bottom/Fly Ash Disposal in Acct 501, Allowances in Acct 509)				-
63	NFPPA Revenues				1,183,384
64	Net Member Base Rate Revenue Requirement - Energy				$ 109,507,003
65	**Adjusted Base Rate Unit Energy Cost ($/mWh)**				**33.267**

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF BIG RIVERS ELECTRIC	)	
CORPORATION FOR APPROVAL TO MODIFY	)	
ITS MRSM TARIFF, CEASE DEFERRING	)	**Case No. 2020-00064**
DEPRECIATION EXPENSES, ESTABLISH	)	
REGULATORY ASSETS, AMORTIZE REGULATORY	)	
ASSETS, AND OTHER APPROPRIATE RELIEF	)	

EXHIBIT SJB-3

J. Kennedy and Associates, Inc.

DEVELOPMENT OF UPDATED LARGE INDUSTRIAL RATE ENERGY CHARGE BASED ON 2019 TEST YEAR DATA

				2013-00199 (ALCAN CASE)		2019 PER BOOKS DATA	
Line	Description	Name	Functional Vector	Total System	Production Energy	Total System	Production Energy
	Operation and Maintenance Expenses						
	Steam Power Generation Operation Expenses						
1	500 OPERATION SUPERVISION & ENGINEERING	OM500	PROFIX	$ 3,007,988	-	$ 6,013,447	-
2	501 FUEL	OM501	Energy	$ 91,471,119	91,471,119	$ 119,514,584	119,514,584
3	502 STEAM EXPENSES	OM502	PROFIX	$ 21,174,678	-	$ 28,929,114	-
4	505 ELECTRIC EXPENSES	OM505	PROFIX	$ 5,963,270	-	$ 4,557,075	-
5	506 MISC. STEAM POWER EXPENSES	OM506	PROFIX	$ 4,078,186	-	$ 6,348,135	-
6	507 RENTS	OM507	PROFIX	$ -	-	$ -	-
7	509 ALLOWANCES	OM509	Energy	$ 17,674	17,674	$ 2,570	2,570
8	Total Steam Power Operation Expenses			$ 125,712,914	$ 91,488,793	$ 165,364,925	$ 119,517,154
	Steam Power Generation Maintenance Expenses						
9	510 MAINTENANCE SUPERVISION & ENGINEERING	OM510	Energy	$ 2,763,175	2,763,175	$ 3,210,543	3,210,543
10	511 MAINTENANCE OF STRUCTURES	OM511	PROFIX	$ 2,193,202	-	$ 3,003,562	-
11	512 MAINTENANCE OF BOILER PLANT	OM512	Energy	$ 17,108,406	17,108,406	$ 21,363,995	21,363,995
12	513 MAINTENANCE OF ELECTRIC PLANT	OM513	Energy	$ 3,584,767	3,584,767	$ 2,324,429	2,324,429
13	514 MAINTENANCE OF MISC STEAM PLANT	OM514	PROFIX	$ 1,437,608	-	$ 2,225,821	-
14	Total Steam Power Generation Maintenance Expense			$ 27,087,159	$ 23,456,348	$ 32,128,349	$ 26,898,966
15	Total Steam Power Generation Expense			$ 152,800,073	$ 114,945,141	$ 197,493,273	$ 146,416,120
	Other Power Generation Operation Expense						
16	546 OPERATION SUPERVISION & ENGINEERING	OM546	PROFIX		-	$ 6,583	-
17	547 FUEL	OM547	Energy		-	$ 316,373	316,373
18	548 GENERATION EXPENSE	OM548	PROFIX	$ 36,837	-	$ 29,710	-
19	549 MISC OTHER POWER GENERATION	OM549	PROFIX		-	$ 30,956	-
20	550 RENTS	OM550	PROFIX		-	$ -	-
21	Total Other Power Generation Expenses			$ 36,837	$ -	$ 383,621	$ 316,373
	Other Power Generation Maintenance Expense						
22	551 MAINTENANCE SUPERVISION & ENGINEERING	OM551	Energy		-	$ 6,600	6,600
23	552 MAINTENANCE OF STRUCTURES	OM552	PROFIX		-	$ 906	-
24	553 MAINTENANCE OF GENERATING & ELEC PLANT	OM553	Energy		-	$ 101,678	101,678
25	554 MAINTENANCE OF MISC OTHER POWER GEN PLT	OM554	PROFIX		-	$ 7,081	-
23	Total Other Power Generation Maintenance Expense			$ -	$ -	$ 116,264	$ 108,278
24	Total Other Power Generation Expense			$ 36,837	$ -	$ 499,885	$ 424,650
25	Total Station Expense			$ 152,836,910	$ 114,945,141	$ 197,993,158	$ 146,840,771
	Other Power Supply Expenses						
26	555 PURCHASED POWER Energy	OM555	OMPP	$ 9,476,864	9,476,864	$ 33,730,535	33,730,535
27	555 PURCHASED POWER Demand	OMD555	OMPPD	$ -	-	$ -	-
28	555 PURCHASED POWER BREC Share of HMP&L Station Two	OMH555	OMPPH	$ 70,610,388	51,247,861	$ 1,183,982	859,315
29	555 PURCHASED POWER OPTIONS	OMO555	OMPP	$ -	-	$ -	-
30	555 BROKERAGE FEES	OMB555	OMPP	$ -	-	$ -	-
31	555 MISO TRANSMISSION EXPENSES	OMM555	OMPP	$ -	-	$ -	-
32	556 SYSTEM CONTROL AND LOAD DISPATCH	OM556	PROFIX	$ -	-	$ -	-
33	557 OTHER EXPENSES	OM557	PROFIX	$ 5,163,160	-	$ 2,978,724	-

DEVELOPMENT OF UPDATED LARGE INDUSTRIAL RATE ENERGY CHARGE BASED ON 2019 TEST YEAR DATA

				2013-00199 (ALCAN CASE)		2019 PER BOOKS DATA	
Line	**Description**	**Name**	**Functional Vector**	**Total System**	**Production Energy**	**Total System**	**Production Energy**
34	558 DUPLICATE CHARGES	OM558	Energy	$ -	-	$ -	-
35	Total Other Power Supply Expenses	TPP		$ 85,250,413	$ 60,724,725	$ 37,893,241	$ 34,589,850
	Customer Service Expense						
36	908 CUSTOMER ASSISTANCE EXPENSES	OM908	TUP	$ 1,293,291	-	$ 622,740	-
37	909 INFORMATIONAL AND INSTRUCTIONA	OM909	TUP	$ 31,897	-	$ 29,888	-
38	913 ADVERTISING EXPENSES	OM913	TUP	$ 143,537	-	$ 136,876	-
38	Total Customer Service Expense	OMCS		$ 1,468,725	$ -	$ 789,504	$ -
39	Sub-Total Prod, Trans, Dist, Cust Acct and Cust Service				$ 175,669,866		$ 181,430,621
	Administrative and General Expense						
40	920 ADMIN. & GEN. SALARIES-	OM920	LBSUB9	$ 13,444,105	4,626,857	$ 14,981,431	5,490,756
41	921 OFFICE SUPPLIES AND EXPENSES	OM921	LBSUB9	$ 8,876,103	3,054,756	$ 6,501,673	2,382,890
42	923 OUTSIDE SERVICES EMPLOYED	OM923	LBSUB9	$ 4,081,955	1,404,826	$ 958,835	351,417
43	926 EMPLOYEE BENEFITS	OM926	LBSUB9	$ 398,481	137,139	$ 129,900	47,609
44	930 MISCELLANEOUS GENERAL EXPENSES	OM930	LBSUB9	$ 1,657,246	570,350	$ 2,195,072	804,503
45	931 RENTS AND LEASES	OM931	PGP	$ 1,933	-	$ 1,933	-
46	935 MAINTENANCE OF GENERAL PLANT	OM935	PGP	$ 217,906	-	$ 180,789	-
47	Total Administrative and General Expense	OMAG		$ 28,677,728	$ 9,793,928	$ 24,949,633	$ 9,077,174
48	Total Operation and Maintenance Expenses	TOM			$ 185,463,795	$ 24,949,633	$ 190,507,795
49	Operation and Maintenance Expenses Less Purchased Power	OMLPP			$ 84,498,137		$ 36,943,733
50	Cash Working Capital - Operation and Maintenance Expenses				10,562,267		4,617,967
51	Total System ROR after Proposed Rate Increase - 2013-00199				4.03%		4.03%
52	Revenue Requirement for Cash Working Capital				425,315		185,954
53	Total Revenue Requirements Classified as Energy				$ 185,889,110		$ 190,693,748
54	TOTAL REGULAR SALES TO MEMBER COOPERATIVES (kWh)				3,291,731,000		3,207,139,532
	UNIT COSTS AS CALCULATED AND PRESENTED IN 2013-00199						
55	Average Steam Production Cost ($/mWh) - PSC 2-30				34.919		45.653
56	Unadjusted Unit Cost Calculation ($/mWh) - PSC 2-33				56.472		59.459
	CORRECTIONS TO REFLECT OFF-SYSTEM SALES						
57	Credit Revenue from Total Special Sales (Non-member)				(57,983,831)		(105,972,139)
58	Add back Special Sales - Capacity						9,131,204
59	Net Revenue Requirement applicable to Member Sales				127,905,279		93,852,814
60	Adjusted Unit Energy Cost ($/mWh)				38.857		29.264
	ADJUSTMENTS TO CREDIT RIDER REVENUES COLLECTED ON AN ENERGY BASIS						
61	FAC Revenues				(19,581,659)		(2,819,357)
62	ES O&M Expense Included in Energy Revenue Requirements (Bottom/Fly Ash Disposal in Acct 501, Allowances in Acct 509)				-		(5,722,141)
63	NFPPA Revenues				1,183,384		(5,948,850)
64	Net Member Base Rate Revenue Requirement - Energy				$ 109,507,003		$ 79,362,466
65	**Adjusted Base Rate Unit Energy Cost ($/mWh)**				**33.267**		**24.746**

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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CORPORATION FOR APPROVAL TO MODIFY	)	
ITS MRSM TARIFF, CEASE DEFERRING	)	**Case No. 2020-00064**
DEPRECIATION EXPENSES, ESTABLISH	)	
REGULATORY ASSETS, AMORTIZE REGULATORY	)	
ASSETS, AND OTHER APPROPRIATE RELIEF	)	

EXHIBIT SJB-4

J. Kennedy and Associates, Inc.

UPDATED LARGE INDUSTRIAL RATE DESIGN

	2019 Actual Bills								
	Current Rates					Proposed Rates			
Rate Description	Billing Determinants	Charge	Billings	% of Base Rates	% of Total Rates	Charge	Billings	% of Base Rates	% of Total Rates
Demand Charge	1,331,956	10.7150	$ 14,271,906	31.844%	27.569%	18.7310	$ 24,948,864	55.667%	48.194%
Energy Charge	802,791,286	0.038050	30,546,208	68.156%	59.006%	0.024750	19,869,084	44.333%	38.381%
Total Demand and Energy Charges		0.055828	$ 44,818,115	100.0%		0.055828	$ 44,817,948	100.0%	
Non-Smelter Non-FAC PPA		0.001701	1,365,204		2.6%	0.001701	1,365,204		2.6%
FAC		0.001669	1,340,143		2.6%	0.001669	1,340,143		2.6%
Environmental Surcharge		0.006214	4,988,336		9.6%	0.006214	4,988,336		9.6%
Surcredit		-0.001038	(833,675)		-1.6%	-0.001038	(833,675)		-1.6%
		0.000111	89,492		0.2%	0.000111	89,492		0.2%
Total	802,791,286	0.064485	51,767,615		100.0%	0.064484	51,767,448		100.0%
MRSM			(975,250)				(975,250)		
Net Billed-Updated Rate			$ 50,792,365				$ 50,792,198		$ (166)
Demand Charge	437,876	10.7150	$ 4,691,843	10.469%	9.063%	10.7150	$ 4,691,843	10.469%	9.063%
Energy Charge	143,279,116	0.038050	5,451,770	12.164%	10.531%	0.038050	5,451,770	12.164%	10.531%
Total Demand and Energy Charges		0.012635	$ 10,143,614	22.6%		0.070796	$ 10,143,614	22.6%	
Non-Smelter Non-FAC PPA		0.001701	1,365,204		2.6%	0.001701	1,365,204		2.6%
FAC		0.001669	1,340,143		2.6%	0.001669	1,340,143		2.6%
Environmental Surcharge		0.006214	4,988,336		9.6%	0.006214	4,988,336		9.6%
Surcredit		-0.001038	(833,675)		-1.6%	-0.001038	(833,675)		-1.6%
		0.000111	89,492		0.2%	0.000111	89,492		0.2%
Total	143,279,116	0.021292	17,093,114		33.0%	0.021292	17,093,114		33.0%
MRSM			(174,059)				(174,059)		
Net Billed-Legacy Rate			$ 16,919,055				$ 16,919,055		$ -
Net Billed-Total Rate			$ 67,711,420				$ 67,711,253		$ (166)