ORIGINAL

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSEOF BIG RIVERS ELECTRIC CORPORATION FROM NOVEMBER 1, 2016 THROUGH OCTOBER 31, 2018	**)**	**Case No. 2019-00007**

DIRECT TESTIMONY

OF

NICHOLAS (NICK) R. CASTLEN

ON BEHALF OF

BIG RIVERS ELECTRIC CORPORATION

FILED: February 25, 2019

ORIGINAL

DIRECT TESTIMONY
OF
NICHOLAS R. CASTLEN

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

A. My name is Nicholas R. Castlen, and my business address is Big Rivers Electric Corporation ("Big Rivers"), 201 Third Street, Henderson, Kentucky, 42420. I am the Manager of Finance at Big Rivers.

Q. Please summarize your education and professional experience.

A. I received a Bachelor of Science in Accounting from the University of Kentucky in 2006 and a Master of Science in Accounting from the University of Kentucky in 2007. I became a Certified Public Accountant (CPA) in the state of Kentucky in 2009.

Before assuming my current position as Manager of Finance in July 2013, I was the Debt & Regulatory Accounting Analyst at Big Rivers primarily responsible for the accounting and administration of the Company's long- and short-term debt obligations and various rate mechanisms. Prior to joining Big Rivers, I was employed by LG&E and KU Energy LLC from December 2009 to April 2012 as a Revenue Accounting Analyst, where I was responsible for various financial accounting, reporting, and analytical roles for retail and wholesale, electric and gas utility revenues.

From January 2006 to December 2009, I was employed by PricewaterhouseCoopers LLP as an Audit and Assurance Associate.

Q. Please summarize your duties at Big Rivers.

A. As the Manager of Finance, my primary responsibilities involve providing direction and oversight to corporate accounting and finance activities including financial reporting and analysis, debt administration, forecasting, cash management, and taxes. Additionally, I am responsible for Big Rivers' Fuel Adjustment Clause ("FAC") and Environmental Surcharge ("ES") rate mechanisms and the related filings with the Kentucky Public Service Commission (the "Commission").

Q. Have you previously testified before this Commission?

A. Yes. I have served as a witness, providing testimony and responses to data requests, in Case Nos. 2012-00534, 2013-00139, 2013-00347, 2014-00097, 2014-00323, 2015-00124, 2015-00320, 2016-00124, 2016-00368, 2017-00345, 2018-00163, and 2018-00338 (reviews of Big Rivers' ES mechanism). I have also served as a witness, providing testimony and/or responses to data requests, in Case Nos. 2012-00555, 2013-00266, 2013-00449, 2014-00230, 2014-00455, 2015-00237, 2016-00006, 2016-00235, 2017-00006, 2017-00287, 2018-00023, and 2018-00221 (reviews of Big Rivers' FAC mechanism).

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

A. The purpose of my testimony is to describe Big Rivers' current methodology for allocating fuel costs to off-system sales in its FAC and how it would allocate fuel costs to off-system sales if the Commission ordered it to change to a "stacking" approach.

Q. How does Big Rivers currently allocate fuel costs to off-system sales in its FAC?

A. Currently, Big Rivers allocates fuel costs to off-system sales using its weighted system average generation fuel cost. Each month, the total cost of fuel burned for generation at all of Big Rivers' plants is divided by the total net generation (MWh), after subtracting line losses, to calculate an overall weighted system average generation fuel cost ($/MWh). The overall weighted system average generation fuel cost is then multiplied by the total off-system sales volume (excluding off-system sales of purchased power) to calculate the cost of fuel allocated to off-system sales, which is subtracted from the total recoverable fuel costs in Big Rivers' FAC calculation.

Q. Has Big Rivers' current method of allocating fuel costs to off-system sales been reviewed and approved by the Commission in prior proceedings?

A. Yes, Big Rivers' current method of allocating fuel costs to off-system sales has been reviewed and approved by the Commission during prior FAC review cases since the 1980s.

Q. Does Big Rivers' current method of allocating fuel costs to off-system sales, based on its weighted system average fuel cost, comply with the 807 KAR 5.056 *Fuel Adjustment Clause* regulation?

A. Yes, Big Rivers' current method of allocating fuel costs to off-system sales complies with 807 KAR 5.056, specifically subsection (3) Fuel Costs (excerpts included below):

> *(3) Fuel costs (F) shall be the most recent actual monthly cost of:*
> *…*
> *… less*
> *(d) The cost of fuel recovered through intersystem sales including the fuel costs related to economy energy sales and other energy sold on an economic dispatch basis.*
> *(e) All fuel costs shall be based on weighted average inventory costing.*

Q. Does Big Rivers' current method of allocating fuel costs to off-system sales result in higher fuel charges to its native load customers than the methods used by other utilities in Kentucky?

A. No. The fuel costs charged to Big Rivers' Members under its current methodology are favorable compared with other utilities in the state. During the period under review, Big Rivers' total monthly fuel factor (i.e. Base Fuel Factor + FAC) was the lowest of all Kentucky utilities for seventeen (17) of the twenty-four (24) months and the second lowest for the other seven (7) months. See Castlen-Exhibit 1 for comparisons of Big Rivers' total monthly fuel factors with the total monthly fuel factors of the other Kentucky utilities for each of the twenty-four (24) months during the current review period. Big Rivers' weighted average monthly fuel factor during the twenty-four month review period was $22.23/MWh, which was the lowest of all the Kentucky utilities which ranged from $22.23/MWh to $28.75/MWh. See Castlen-Exhibit 2 for a chart with the weighted average monthly fuel factors during the review period for each utility.

Q. Do other utilities in Kentucky use a stacking methodology for allocating fuel costs to off-system sales?

A. It is Big Rivers' understanding that the other utilities in Kentucky do use some variation of a stacking methodology for allocating fuel costs to off-system sales. However, there is no single stacking methodology consistently used by all other utilities.

Q. Do stacking methodologies always result in lower fuel costs being allocated to native load customers than to off-system sales?

A. No. Some utilities' stacking methodologies use incremental fuel costs for allocating fuel to off-system sales, which can result in higher fuel costs being allocated to native load customers than to off-system sales. Although the fuel costs from the highest cost unit are allocated to off-system sales each hour, only the incremental fuel costs necessary to generate the next MWh of energy are allocated to those off-system sales. As a result, the higher fuel costs associated with start-up, no-load, and/ or minimum-load operating levels during the month can be allocated entirely to native load customers.

For example, assuming the average monthly generation fuel cost for a utility's highest cost unit is $35.00/MWh, the incremental fuel cost for generating one additional MWh when that unit is operating at maximum efficiency may only be $20.00/MWh. Under a stacking methodology which allocates that utility's highest cost unit's incremental fuel costs to off-system sales, only $20.00/MWh would be allocated to off-system sales, resulting in higher fuel costs being allocated to native load sales.

Q. Did Big Rivers previously agree to change its method of allocating fuel costs to a stacking approach?

A. Yes. In Case No. 2014-00230[1], a six-month review of Big Rivers' FAC mechanism, Kentucky Industrial Utility Customers, Inc. ("KIUC") intervened and argued that Big Rivers' method of allocating system average fuel costs to both native load and off-system sales was improper. Additionally, KIUC argued that the Commission should require Big Rivers to implement a stacking approach in its FAC going forward, in which its lowest fuel cost generation would be allocated to its native load customers each month, and its highest fuel cost generation would be allocated to off-system sales.[2]

On February 5, 2015, the Commission established Case No. 2014-00455 to review and evaluate the operation of Big Rivers' FAC for the two-year period from November 1, 2012, through October 31, 2014. Because the fuel cost allocation issue raised by the KIUC in Case No. 2014-00230 had not been concluded at the time Case No. 2014-00455 was established, the Commission consolidated the two cases.

Although Big Rivers' current method of allocating fuel costs to off-system sales (using system average fuel costs) is fair, just, and reasonable,

[1] Case No. 2014-00230, *An Examination of the Application of the Fuel Adjustment Clause of Big Rivers Electric Corporation from November 1, 2013 through April 30, 2014.*

[2] Brief of Kentucky Industrial Utility Customers, Inc. (December 23, 2014), Case No. 2014-00230.

and has been reviewed, been determined to be reasonable, and been approved by the Commission in prior FAC review cases, Big Rivers voluntarily agreed to propose a change to its allocation methodology as part of its next base rate case. This agreement was part of a Stipulation and Recommendation ("Stipulation")[3] entered into with KIUC and the Attorney General of Kentucky in Case Nos. 2014-00230 and 2014-00455. The Stipulation was approved by the Commission on July 27, 2015.[4]

As stated in the Stipulation, Big Rivers previously expected to file an application for a general adjustment in rates during the first quarter of 2016, but has subsequently been able to push back the expected date of the application to 2020. Accordingly, Big Rivers has not yet proposed a change in its methodology for allocating fuel costs to off-system sales in its FAC calculation.

Q. Is Big Rivers proposing to change its method of allocating fuel costs to off-system sales in its FAC as part of this proceeding?

A. Big Rivers is not recommending to change its method of allocating fuel costs to off-system sales as part of this proceeding. However, the Commission's

[3] Stipulation and Recommendation, dated May 26, 2015, between Big Rivers Electric Corporation, Kentucky Industrial Utility Customers, Inc., and the Office of the Attorney General of Kentucky, Case Nos. 2014-00230 and 2014-00455.

[4] Commission's Order approving Stipulation in Case Nos. 2014-00230 and 2014-00455 (July 27, 2015).

February 2, 2018, order in Case No. 2017-00287 directed Big Rivers "to propose a change in its fuel cost allocation methodology to a least-cost stacking method, in the earlier of its next base rate case or its next two-year FAC review . . . ." That order stated that "[i]f Big Rivers chooses to implement the stacking methodology as part of its next two-year FAC review case, it should be prepared to implement that methodology by the conclusion of that case." As further discussed below, the order correctly noted that "…changing the methodology to calculate fuel costs outside of a base rate case will create a matching issue since Big Rivers did include a certain level of off-system sales margins in its revenue requirement in its last rate case, Case No. 2013-00199."

Identified below is a least-cost stacking methodology, which Big Rivers proposes to implement as part of its next base rate proceeding, currently expected to be filed in 2020. Although Big Rivers does not recommend implementing this methodology in this proceeding, Big Rivers is willing and prepared to implement it at the conclusion of this case if the Commission prefers for Big Rivers to do so.

Q. Why is Big Rivers proposing to implement the new methodology in its next base rate proceeding rather than as part of this case?

A. Big Rivers objected in Case Nos. 2014-00230, 2014-00455, and 2017-00287 to being forced to adopt a stacking methodology outside of a base rate case. Big Rivers explained that any increases or decreases in FAC charges that would result from changing allocation methodologies as part of a base rate case proceeding would result in an offsetting change in base rates, but changing allocation methodologies outside of a base rate proceeding, and if not accompanied by a corresponding change in base rates, would be unreasonable and would violate the matching principle.

In its February 2, 2018, order in Case No. 2017-00287, the Commission agreed that changing methodologies outside of a base rate case would "create a matching issue." As a result, the Commission found that a methodology change should only occur prospectively, and ideally as part of a base rate case. However, the Commission also recognized that Big Rivers had not filed the rate case that was planned for 2016, that there needed to be a time schedule for Big Rivers to propose a change in allocation methodologies, and that if Big Rivers were going to adopt a stacking methodology outside of a base rate case, that Big Rivers would need to revise its base rates at the same time to offset any resulting increases or decreases in FAC charges.

There are a number of issues associated with calculating the base rate change needed to offset a methodology change outside of a base rate proceeding. For example, changing methodologies also affects the revenues

Big Rivers receives from its environmental surcharge tariff. Additionally,, Big Rivers is a generation and transmission cooperative, its three distribution cooperative members (Jackson Purchase Energy Corporation, Kenergy Corp., and Meade County Rural Electric Cooperative Corporation), would have to file flow through rate cases to incorporate changes to Big Rivers' base rates, which could cause confusion and complaints from their retail customers.

So, while Big Rivers has identified a stacking methodology, it is proposing to implement that methodology as part of its next base rate case.

Q. Has anything changed since Case No. 2017-00287 that further supports the reasonableness of implementing the change in allocation methodologies in Big Rivers' next rate case?

A. Yes. Big Rivers idled its Coleman generating station in May 2014 and its Reid 1 generating station in April 2016. More recently, the Station Two generating station was retired on February 1, 2019. Big Rivers' remaining generation consists of a combustion turbine ("CT") at its Reid station, and its coal-fired generating units at its Wilson and Green stations. The Reid CT operates very few hours per year, and the Wilson and Green stations have similar fuel costs. As such, with the idling and retirement of the other units and given that Big Rivers anticipates filing its next base rate case in 2020,

the difference in FAC charges that would result from changing to a stacking methodology does not justify the difficulties and administrative burden required to make a corresponding change in Big Rivers' and its Members' base rates.

Q. Has Big Rivers calculated the impact to its current base rates of changing to its proposed stacking methodology?

A. Yes. If Big Rivers had utilized its proposed stacking methodology during the two-year period under review, it would have recovered approximately $3.0 million less through its FAC. Accordingly, based on the two-year review period, an annual base rate increase of $1.5 million would be required to offset the reduction in costs recovered through Big Rivers' FAC resulting from changing methodologies. So long as this corresponding change is made to Big Rivers' base rates, changing to a stacking methodology would have essentially no change in the effective rate to Big Rivers' Members.

Q. Has Big Rivers discussed with KIUC Big Rivers' proposal to wait until its next base rate case to implement a stacking methodology?

A. Yes, and as a result of the retirement of Station Two, KIUC is agreeable to Big Rivers waiting until its next base rate case to implement a stacking methodology.

Q. What is Big Rivers' proposed methodology that it would implement as part of its next base rate case in order to allocate fuel costs to off-system sales in its FAC calculation?

A. Big Rivers would calculate the monthly average fuel cost for each of its generating units, then "stack" its units based on each unit's respective average generation fuel cost ($/MWh) from highest to lowest cost. It would then allocate fuel costs to off-system sales on an hourly basis, allocating the highest fuel cost generation available each hour to off-system sales. This methodology would be incorporated into the assumptions on which Big Rivers' next base rate case is premised, and Big Rivers would begin calculating FAC charges using this new methodology to coincide with the effective date of its base rates adopted in that case.

Q. Does this conclude your testimony?

A. Yes.

BIG RIVERS ELECTRIC CORPORATION

ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION FROM NOVEMBER 1, 2016 THROUGH OCTOBER 31, 2018
CASE NO. 2019-00007

VERIFICATION

I, Nicholas R. (Nick) Castlen, verify, state, and affirm that I prepared or supervised the preparation of the Direct Testimony filed with this Verification, and that Direct Testimony is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry

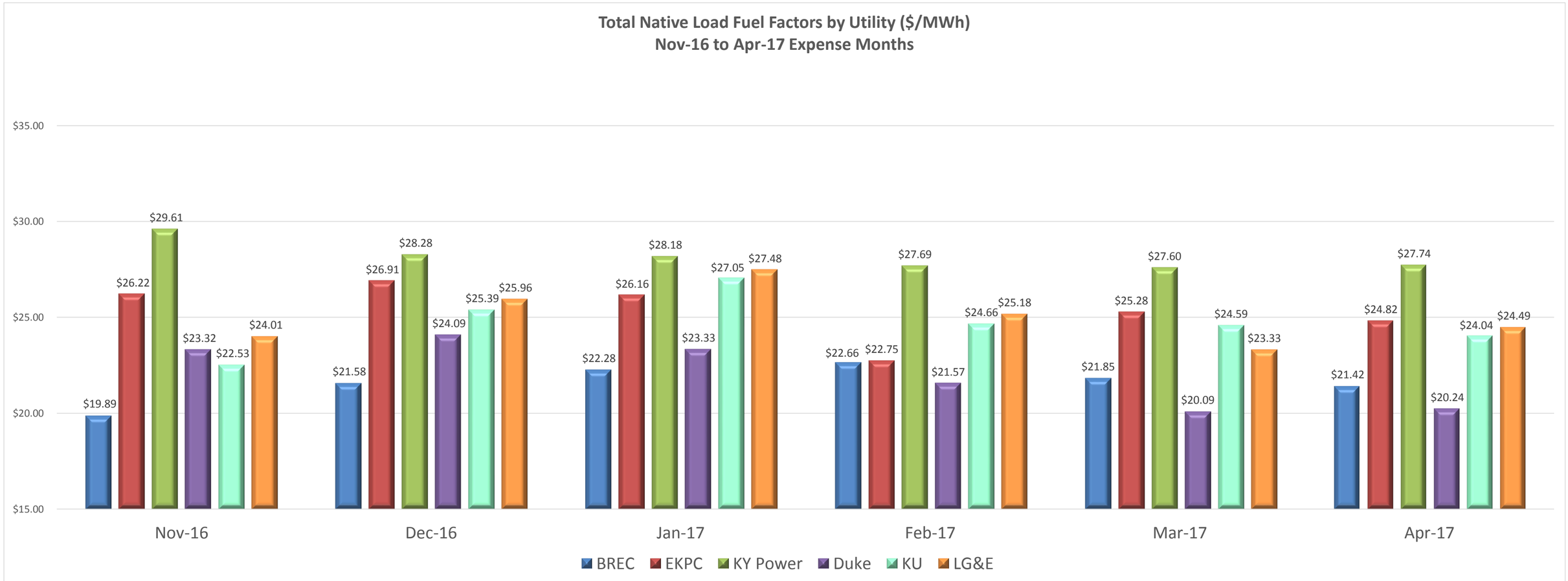
Nicholas R. (Nick) Castlen

COMMONWEALTH OF KENTUCKY)
COUNTY OF HENDERSON)

SUBSCRIBED AND SWORN TO before me by Nicholas R. (Nick) Castlen on this the 25th day of February, 2019.

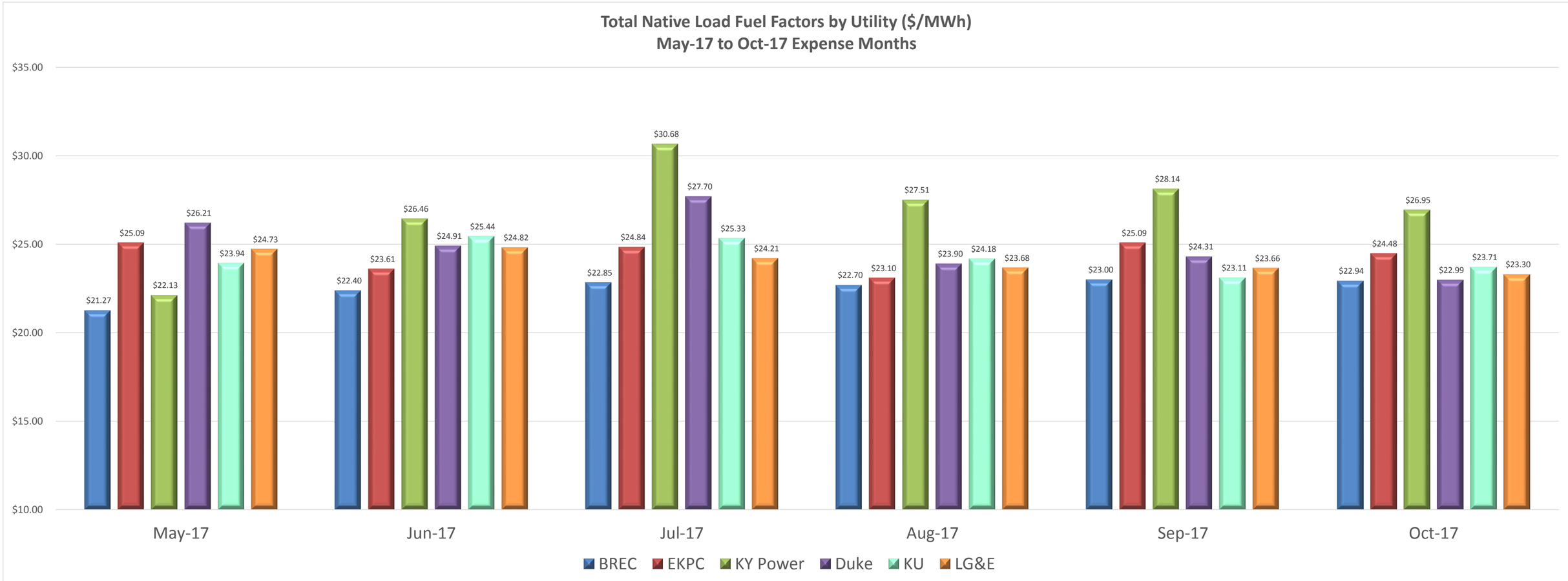
Notary Public, Kentucky State at Large
My Commission Expires October 31, 2020

Big Rivers Electric Corporation
FAC Review Case No. 2019-00007
Total Monthly Fuel Factors by Utility ($/MWh)



Case No. 2019-00007
Castlen - Exhibit 1
Direct Testimony of Nicholas R. Castlen

Big Rivers Electric Corporation
FAC Review Case No. 2019-00007
Total Monthly Fuel Factors by Utility ($/MWh)



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FAC Review Case No. 2019-00007
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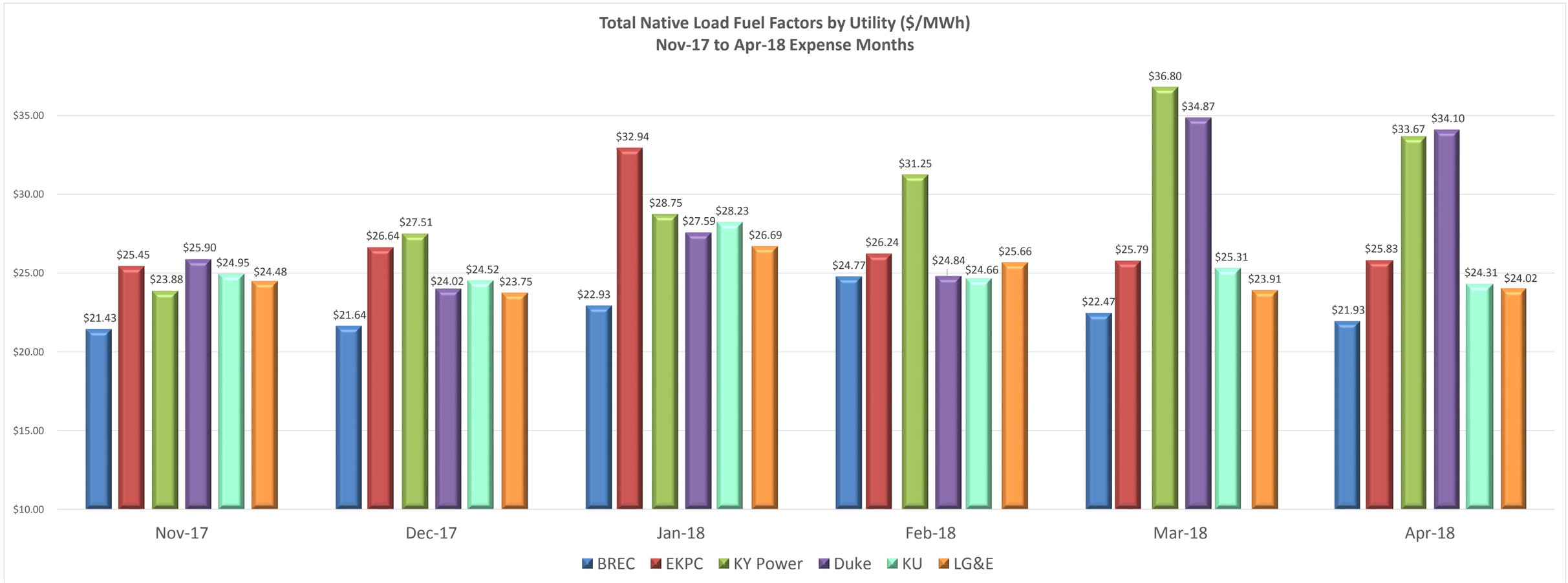

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Big Rivers Electric Corporation
FAC Review Case No. 2019-00007
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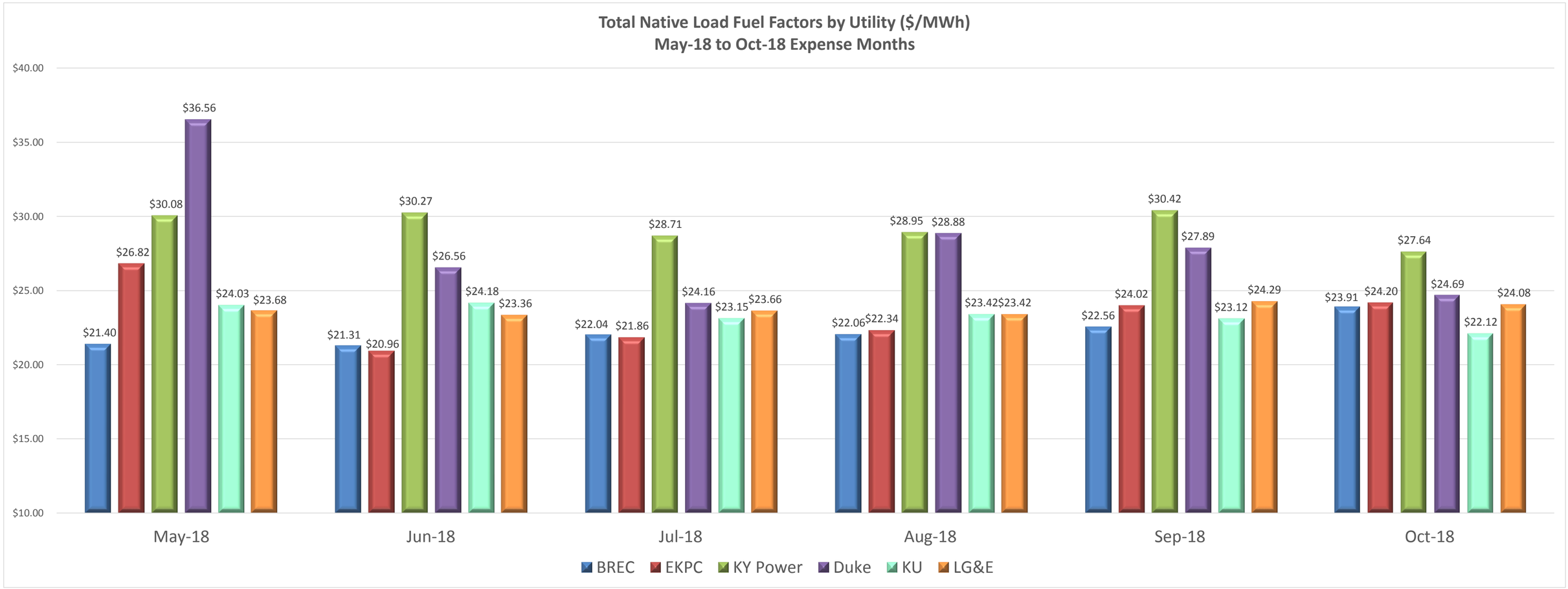

Case No. 2019-00007
Castlen - Exhibit 1
Direct Testimony of Nicholas R. Castlen
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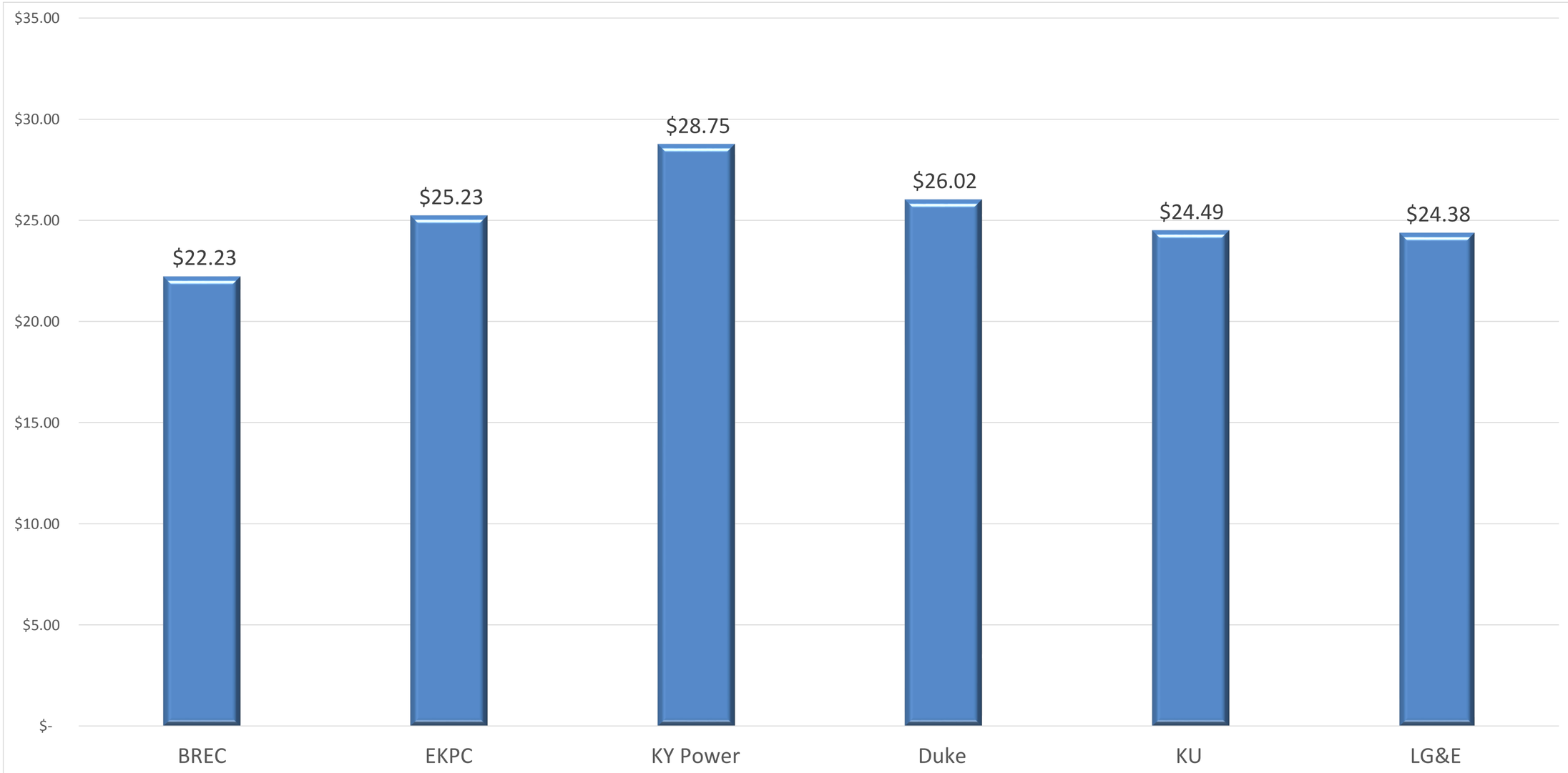
Big Rivers Electric Corporation
FAC Review Case No. 2019-00007
Average Monthly Fuel Factor During Review Period by Utility
(Nov. 2016 - Oct. 2018)
($/MWh)



Case No. 2019-00007
Castlen - Exhibit 2
Direct Testimony of Nicholas R. Castlen
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