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Geoff Marke
Direct Testimony
File No. ER-2021-0312

Exhibit No.: ______________
Issue(s): Cost and Quality of Service/ Stranded Assets/Customer Savings Plan/AMI/ Low-Income Programs/Late Fees/ Data Privacy and Green Button
Witness/Type of Exhibit: Marke/Direct
Sponsoring Party: Public Counsel
Case No.: ER-2021-0312

DIRECT TESTIMONY

OF

GEOFF MARKE

Submitted on Behalf of the Office of the Public Counsel

THE EMPIRE DISTRICT ELECTRIC COMPANY D/B/A LIBERTY

FILE NO. ER-2021-0312

*** ***

Denotes Highly Confidential Information that has been redacted

October 29, 2021

PUBLIC

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Request of The Empire District Electric Company d/b/a Liberty for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in its Missouri Service Area	))))))	Case No. ER-2021-0312

AFFIDAVIT OF GEOFF MARKE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Geoff Marke, of lawful age and being first duly sworn, deposes and states:

1. My name is Geoff Marke. I am a Chief Economist for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my direct testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Geoff Marke
Chief Economist

Subscribed and sworn to me this 29th day of October 2021.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

TIFFANY HILDEBRAND
My Commission Expires
August 8, 2023
Cole County
Commission #15637121

Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2023.

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DIRECT TESTIMONY

OF

GEOFF MARKE

EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2021-0312

I. INTRODUCTION

Q. What is your name, title and business address?

A. Geoff Marke, PhD, Chief Economist, Office of the Public Counsel ("OPC" or "Public Counsel"), P.O. Box 2230, Jefferson City, Missouri 65102.

Q. What are your qualifications and experience?

A. I have been in my present position with OPC since 2014 where I am responsible for economic analysis and policy research in electric, gas, and water utility operations.

Q. Have you testified previously before the Missouri Public Service Commission?

A. Yes. A listing of the Commission cases in which I have previously filed testimony and/or comments is in Schedule GM-1.

Q. What is the purpose of your direct testimony?

A. I give a contextual breakdown of Empire's cost and quality of service from a consumer's perspective. That perspective is highlighted by the fact that <u>Empire scored 142 out of 143 in the J.D. Power 2020 Electric Utility Residential Customer Satisfaction Study</u>.[1]

Empire performed worse in customer satisfaction than the following utilities who garnered national notoriety in 2020:

- PG&E – Who was charged with manslaughter for up to four deaths for starting the Zogg Fire in Northern California that burned 50,000+ acres of land and 204 buildings;[2]

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[1] J.D. Power. (2020) Electric Utilities' Good Deeds—and Communication about Them—Pay Off During Pandemic, J.D. Power Finds.https://www.jdpower.com/business/press-releases/2020-electric-utility-residential-customer-satisfaction-study

[2] Zogg Fire. (2020) Wikipedia. https://en.wikipedia.org/wiki/Zogg_Fire

- FirstEnergy– Who confessed to federal corruption and racketeering charges tied to passage of Ohio House Bill 6 to prop up a nuclear power plant;[3]

- Commonwealth Edison – Who was ordered to pay $200 million in fines to resolve a criminal investigation into a years-long utility bribery scheme with lawmakers of the Illinois General Assembly;[4]

- Arizona Public Service Company – Arizona's largest electric company who ended up paying $24 million in fines for not explaining its rates properly, erroneously directing thousands of customers away from its cheapest plans, and disclosing some customers' bills publically without their consent on its website.[5]

- Dominion - Who raised rates in the middle of the COVID-19 pandemic following the failed $9 billion V.C. Summer nuclear fallout that South Carolina residents will be paying for generations.[6]

The sole utility with a lower customer satisfaction score out of the entire United States (including all investor-owned utilities and select large cooperatives), Central Maine Power, required a last minute veto from the Governor of Maine to override an approved bill from the Main General Assembly to prevent that investor-owned utility from being taken over as a consumer-owned utility due to its high cost and poor quality service.[7]

Empire only scored better than the utility where lawmakers in the state in which it operates voted to force it to be sold to its customers.

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[3] John, J. (2020) FirstEnergy Ousts CEO Amid $61M Bribery Investigation Scandal. *GTM* https://www.greentechmedia.com/articles/read/firstenergy-ousts-ceo-amid-61m-bribery-investigation-scandal

[4] US. Department of Justice (2020) Commonwealth Edison Agrees to Pay $200 Million to Resolve Federal Criminal Investigation Into Bribery Scheme. The United States Attorney's Office Northern District of Illinois https://www.justice.gov/usao-ndil/pr/commonwealth-edison-agrees-pay-200-million-resolve-federal-criminal-investigation

[5] Randazzo, R. (2020) APS will give $25 to customers who were on the wrong rate plan, plus reimbursements. *The Republic* https://www.azcentral.com/story/money/business/energy/2019/12/12/arizona-public-service-co-give-25-customers-misled-plans/4384877002/

[6] Nukegate Scandal. *Wikipedia*. https://en.wikipedia.org/wiki/Nukegate_scandal

[7] Miller, K. (2021) Mills vetoes bill calling for forced buyout of CMP and Versant Power. *Press Herald* https://www.pressherald.com/2021/07/13/mills-to-detail-decision-on-consumer-owned-utility-bill/

Keep in mind these scores reflect 2020 and do not include all that occurred in 2021, including the loss of power and $218 million in fuel related costs Empire wants to pass on completely (with carrying costs) to customers as a result of Storm Uri. It also does not include any of its AMI or the $2 billion in planned PISA capital investments (over the next four years), the more than $600 million in ratepayer-backed merchant generation, and the hundreds of millions of dollars in undepreciated balance and return on for its self-imposed stranded Asbury power plant.[8] Empire achieved the second worst score in the country *before* it even requested to put any of these aforementioned financial burdens on its approximately 150,000 captive Missouri ratepayers and now it asks that it be entitled to a 10.0 return on equity for its service.

After I expand on Empire's shortcomings in the cost and quality of its service I spend the rest of my testimony offering specific revenue and policy recommendations. Those recommendations include the following areas:

- Stranded Asset: Asbury Power Plant;
- The Customer Savings Plan: Ratepayer-Backed Merchant Generation;
- Advanced Metering Infrastructure;
- Low-Income Programs;
- Late Fee Adjustments; and
- Data Disclosure and Privacy Policy.

Q. Summarily, what are your recommendations?

A. Regarding its overall cost and quality of service, Empire and Algonquin Power & Utilities Corp. ("APUC"), should focus on reducing Empire's costs and improving its quality of service, and being reasonable corporate stewards to its Missouri service territory as opposed to merely increasing its rate base and cost of service. Its failure to approach a reasonable level of service quality, its high cost of service, and its blatant financial shift of risk to its captive ratepayers has led me to make the following specific recommendations:

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[8] See GM-2 for a copy of the Memorandum filed in Case No: EO-2019-0046 outlining OPC's concerns as it relates to Liberty's planned capital investments and the projected impact on its captive customers and consequently the Southwest Missouri economy which was filed on April 6, 2021 shortly after the Company filed for PISA treatment.

- Empire should not continue to receive "a return on" its investment in Asbury after Empire retired Asbury on December 12, 2019;
- Empire should not receive "a return of" the remaining balance of its 2015 air quality control system ("AQCS") investments of $124 million in Asbury that extended the useful life of the plant to 2035;
- The Commission should modify the terms of the Customer Savings Plan associated with the ratepayer-backed merchant generation wind investments to recognize the distortion in risk/reward between shareholders and ratepayers as recommended in the direct testimony of Lena M. Mantle;
- Empire should not receive "a return on" its investment in Advanced Metering Infrastructure ("AMI") hardware and software unless it demonstrates realized benefits to Empire's customers (beyond the ability to more easily disconnect a customer) that includes the execution of a coherent and actionable plan that synchronizes AMI hardware, software and customer education of Time-of-Use ("TOU") rates for customers when these new rates in this case go into effect;
- If Empire continues to fail to support reasonable social responsibility considerations related to its cost of service as it pertains to its many struggling customers the Commission should make an explicit 5 basis point downward adjustment to the Company's Return on Equity ("ROE") in recognition of Empire's failure to meet its espoused commitment to the local economy during the Company's acquisition and its inadequate response to managing COVID-19 customer arrearages;
- Empire should adjust its late fees to match the short term debt recommendations made by OPC witness David Murray, which is 0.25% annually to align with the actual cost of service; and
- Empire should adopt the Green Button platform for customers seeking energy usage interval data for one or more accounts through one data file, update its privacy policy on its webpage and begin meeting with Staff and OPC periodically to discuss the results of periodic privacy impact assessments ("PIA's").

Q. What are the OPC's other witnesses' recommendations in this case?

A. In addition to my aforementioned recommendations the other OPC's witnesses' recommendations are as follows:

OPC's Mr. John Riley recommends $23.6 million reduction in rate base for the ARO and $762,685 revenue reduction in the amortization associated with that ARO. Moreover, he recommends a $4.2 million reduction to rate base for test revenues, a $21.3 million reduction in cash working capital and the removal of $159,140,741 in rate base disallowance costs associated with the Asbury Power Plant. The $208.2 million in rate base reduction results in an approximately $16,239,600 after tax revenue requirement adjustment.

OPC's Mr. John Robinett provides a historical review of major additions that have occurred at Asbury, he addresses timing of events in the previous rate case and provides the possible options for the Commission to decide on how the undepreciated value of Asbury at time of book retirement is/is not to be recovered and over what time periods it should be recovered.

OPC's Mr. David Murray recommends a return on common equity of 9.0% applied to a common equity ratio of approximately 47.5%. As Mr. Murray explains in his testimony, he used the same approach that he used in Empire's 2019 rate case to derive his recommended common equity ratio. That approach captures the amount of leverage APUC considers reasonable for its regulated utility business segment, a segment which includes Empire.

OPC's Ms. Lena Mantle provides testimony on the impact on Empire's resource adequacy from the retirement of the Asbury plant, recommends clarification and modification of the market price protection mechanism, and recommends modifications to Empire's fuel adjustment clause.

This case will include an update where new information will be substituted for the test year data used to determine OPC's revenue requirement. OPC will not consider any revenue requirement changes that cannot be verified by identification of the cause of the change and related amount. If these elements cannot be determined, then OPC will oppose the revenue requirement change.

II. COST AND QUALITY OF SERVICE

COVID-19 Recovery and Response

Q. What are impacts COVID-19 has had on Missourians?

A. Consider what has occurred over just the past year. At the end of October 2020, we had registered 169,311 positive cases and 2,734 deaths. Since then, Missouri added 695,326 new cases and 9,938 new deaths. Of the new cases added in the last year, somewhere between 10% (70,000) to 35% (246,000) of those people became (or will become) "long haulers."[9] That is, they had symptoms that did not fade after days or weeks. For many, it continued months later or continues to exist today. Thus, this data obscures the tens or hundreds of thousands of Missourians living with long-term, chronic health issues resulting from their COVID-19 illness. Table 1 provides a one-year comparison of total reported Missouri COVID-19 cases and deaths in late October 2020 and late October 2021 as reported by *The New York Times*. Figure 1 provides a graphical illustration of the daily positive cases in Missouri since the spring of 2020.

Table 1: *The New York Times* Missouri COVID-19 October 2020 and 2021 Data[10]

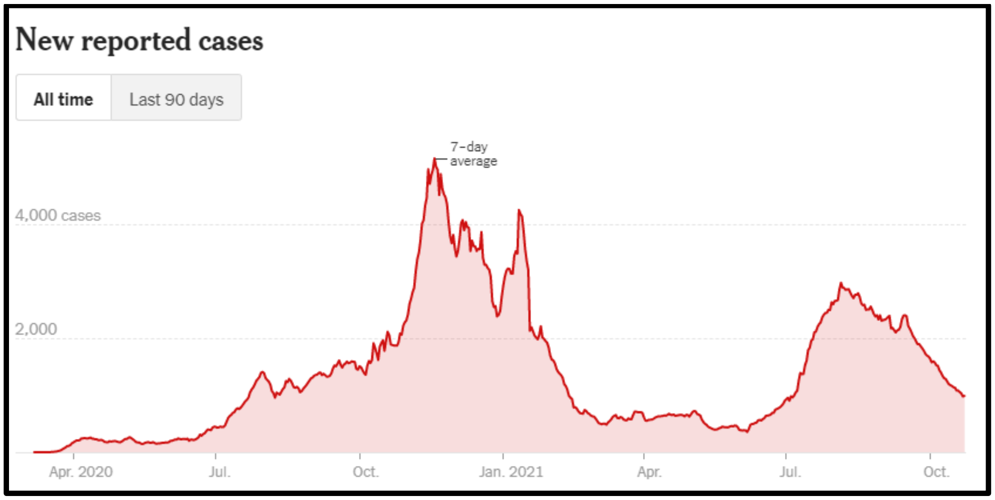
Missouri	Oct. 23, 2020	Oct. 23, 2021
Positive Cases	169,311	864,637[11]
Deaths	2,734	12,672

[9] Rubin, R. (2020) As Their Numbers Grow, COVID-19 "Long Haulers" Stump Experts. *Journal of American Medical Association.* https://jamanetwork.com/journals/jama/fullarticle/2771111; Hirschtick, Jana (2021) Severe COVID-19 may be linked to long-haul symptoms. University of Michigan. https://news.umich.edu/severe-covid-19-may-be-linked-to-long-haul-symptoms/

[10] Tracking Coronavirus in Missouri: Latest Map and Case Count (2021) *The New York Times*. https://www.nytimes.com/interactive/2021/us/missouri-covid-cases.html

[11] 864,637 represents approximately 14.1% of all Missourians based on the latest census data.

Figure 1: *The New York Times* Missouri COVID-19 New Reported Cases[12]

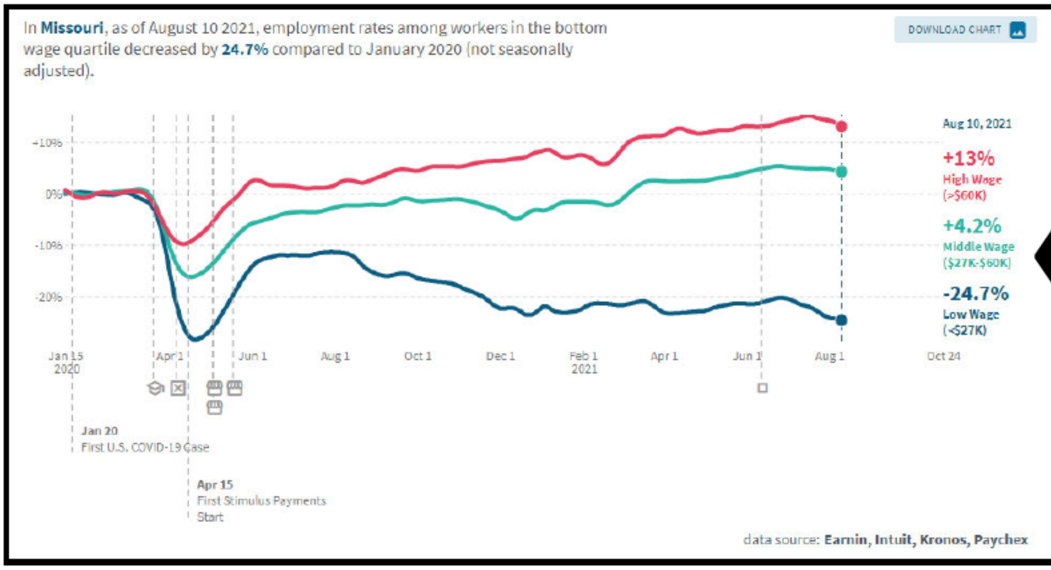


As of October 23, 2021, it is estimated that approximately 58% of Missouri citizens 12 and up are fully vaccinated with roughly 80% of Missourian's 65 and older fully vaccinated.[13] 2020 also marked the first time in at least a century in which more people in Missouri died than were born (4,555 more deaths than births).[14]

The economic recovery has been uneven in Missouri to date. This is illustrated in Figures 2 and 3, which shows how overall employment and consumer spending by income brackets have changed from pre-COVID-19 levels to present.

[12] Ibid.
[13] Ibid.
[14] Suntrup, Jack (2022) For the first time in at least a century, more people died in Missouri than were born, new figures show. *St. Louis Post Dispatch*. https://www.stltoday.com/news/local/state-and-regional/for-the-first-time-in-at-least-a-century-more-people-died-in-missouri-than/article_63a3f432-7179-5df6-821b-365965adb1cd.html

Figure 2: Percent Change in Employment as of August 10, 2021[15]



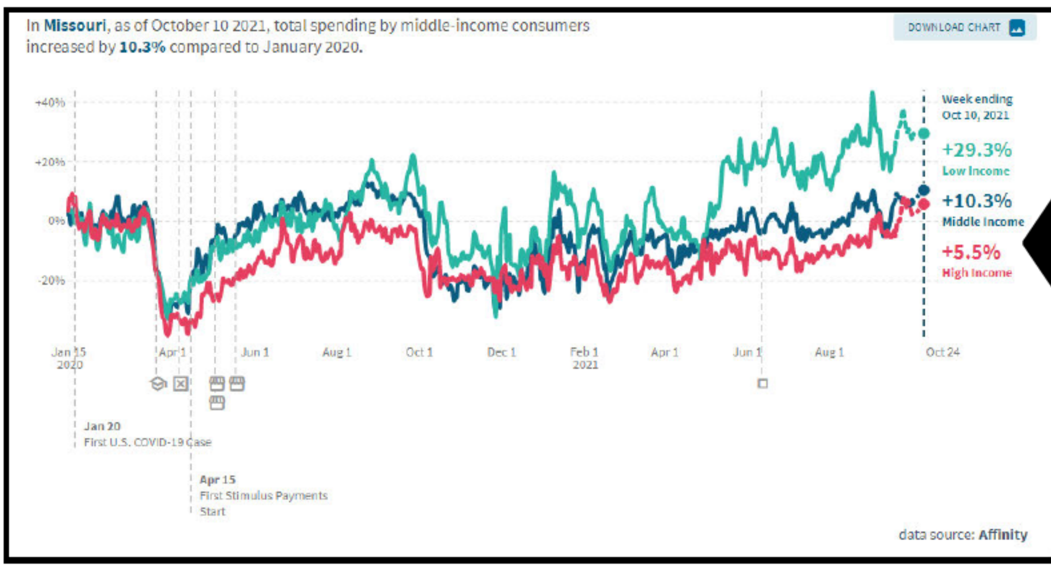
October 24, 2021

+13% High Wage (>$60K)

+4.2% Middle Wage ($27K - $60K)

-24.7% Low Wage (<$27K)

Figure 3: Missouri Consumer Spending by Income as of October 10, 2021[16]



October 10, 2021

+29.3% Low Income (>$60K)

+10.3% Mid Income ($27K - $60K)

+ 5.5% High Income (<$27K)

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[15] Opportunity Insights: Economic Tracker (2021)Missouri https://www.tracktherecovery.org/
[16] Ibid.

Q. What do these tables show?

A. That low-income consumers (<$27K per year) have seen employment rates decrease 24.7% since January of 2020 and consumer spending increase 29.3%. That is, there are fewer low-income earners working and they are spending considerably more money than they did a year ago. Clearly, there are various conclusions that can be drawn from this data; but I merely would like to point out that this pattern cannot be sustained.

Q. How do Empire's customers breakdown across relevant socio-economic demographics?

A. Table 2 provides an updated listing by county of key economic data from the most recent American Community Survey

Table 2: Select 2020 American Community Survey Economic Data of relevant service territory[17]

Area	**Mean Family Income**	**Median Family Income**	**Below Poverty Rate** **% Below $26,200 family of four Missouri**	**Child Poverty Rate** **% Under 18**
Empire MO Counties				
Barry	$72.1	$53.9	21.1%	32.5%
Barton	$66.0	$44.1	20.3%	27.0%
Cedar	$63.8	$46.5	15.8%	19.9%
Christian	$74.0	$60.6	10.0%	11.9%
Dade	$56.0	$40.4	21.5%	39.3%
Dallas	$62.3	$43.5	13.4%	14.8%
Greene	$80.2	$61.5	16.4%	17.6%
Hickory	$43.9	$34.1	17.3%	18.3%
Jasper	$73.2	$57.9	17.1%	25.1%
Lawrence	$58.9	$44.7	16.8%	27.7%
McDonald	$58.5	$47.4	18.6%	29.3%
Newton	$86.5	$62.3	13.5%	18.3%
Polk	$68.7	$52.5	16.5%	20.1%
St. Clair	$60.4	$51.6	17.1%	24.6%
Stone	$76.7	$56.9	12.9%	19.0%
Taney	$67.2	$53.9	14.7%	19.9

[17] Missouri Census Data Center (2020) ACS Profiles (5-year period). https://mcdc.missouri.edu/

Other				
US	$103.8	$77.2	13.7%	18.7%
Missouri	$91.1	$70.3	13.4%	18.5%

Q. What is important to note from your Table 2 data?

A. Empire's customers have lower overall mean and median household incomes, and higher poverty rates relative to the United States and Missouri averages.[18]

Although insufficient time prevented me from performing the analysis, based on the aforementioned data, it would not be out of the realm of reasonableness to surmise that Empire's southwest Missouri residential customers have one of, or possible the largest, energy burden of residential customers in the United States.[19]

Q. Are you aware of anything else that bears on the ability of Empire's already economically challenged customers to afford a large rate increase?

A. Yes. Inflation has surged in 2021 and is at a 30-year high. According to the U.S. Bureau of Economic Analysis:

> The price index tracking consumer spending — the PCE price index — was up 4.3% over the 12 months ending in August. That was a faster pace than July's 4.2%. Inflation continued to run at the fastest pace since January 1991.[20]

Some analyst are concerned that the U.S. may be approaching a period of stagflation.[21] That is, a combination of inflation, slow economic growth and high unemployment. Regardless, an overall decrease in the purchasing power of the dollar coupled with Empire's rate increase will impact vulnerable households most of all and underscores the importance of my recommendations regarding low and fixed-income customers. The Commission should also be cognizant that the U.S. Energy Information Administration reported on October 13, 2021 that

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Christian County median household income being the sole exception when compared to the Missouri average.

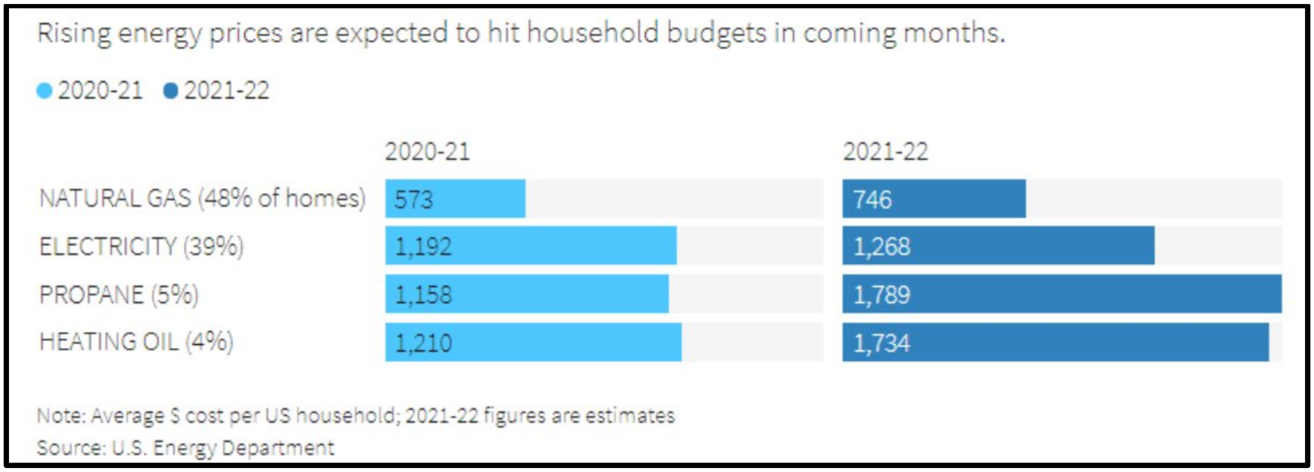
[19] A household's energy burden—the percentage of household income spent on energy bills—provides an indication of energy affordability.

[20] Bureau of Economic Analysis (2021) News Release: Personal Income and Outlays, August 2021. https://www.bea.gov/news/2021/personal-income-and-outlays-august-2021

[21] Detrixhe, John (2021) Why economists are talking about stagflation. *Quartz* https://qz.com/2068772/why-economists-are-talking-about-stagflation/

it expects households to see their heating bills jump as much as 54% compared to last winter as already tight global supply conditions will be pressed by colder overall forecasts.[22] A breakdown of expected rising energy prices in the coming months can be found in Figure 4.

Figure 4: Home heating bills to rise this winter (2021-2022) [23]



Not all have suffered from the global pandemic and recession. Empire's parent, Algonquin Power & Utilities Corp. ("APUC"), saw its stock valuation drop to a low of $11.25 in March of 2020, but has since rebounded + 34.6% despite the global recession to $15.14 as of October 22, 2021 as shown in Figure 5. Algonquin also achieved a 67% increase in its most recent Q2 adjusted EBITDA (earnings before interest, taxes, depreciation, and amortization) compared to the same quarter in 2020.[24] Finally, APUC just announced an acquisition of $2.85 billion for American Electric Power's Kentucky Power and AEP Kentucky Transco.[25]

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[22] Disavino, Scott (2021) U.S. home heating bills expected to surge this winter EIA says. *Reuters*. https://www reuters.com/world/us/us-home-heating-bills-seen-higher-this-winter-eia-says-2021-10-13/
[23] Ibid.
[24] Algonquin Power & Utilities Corp (AQN) Q2 2021 Earnings Call Transcript (2021) *The Motley Fool*. https://www.fool.com/earnings/call-transcripts/2021/08/13/algonquin-power-utilities-corp-aqn-q2-2021-earning/
[25] Saul, J. & M. Chediak AEP will sell Kentucky operations to Algonquin to fund renewables. *Bloomberg*. https://www.bloomberg.com/news/articles/2021-10-26/aep-to-sell-kentucky-operations-to-algonquin-for-2-85-billion

Figure 5: Algonquin Power & Utilities Corp. 5-year market summary

Q. Did APUC, directly or indirectly, provide any relief to its utility customers during the COVID-19 pandemic?

A. The only relief I am aware of is that on April 8, 2020, Liberty Utilities announced a $500,000 donation to support communities within its service territories during the COVID-19 pandemic. The key distinction being that the half-million in donations was allocated across all of its subsidiary utilities. There are fourteen locations listed on Liberty Utilities home page: Arizona, Arkansas, California, Georgia, Illinois, Iowa, Kansas, Massachusetts, Missouri, New Brunswick, New Hampshire, New York, Oklahoma, and Texas. Whether or not the half-million also extended to Bermuda and/or other affiliates outside of the continental United States is not known. Needless to say, there was very little effort made, by money or otherwise, to support its Missouri customers, let alone any matching bill arrearage amounts that I am aware of. This runs in direct contrast to the efforts put forward by Ameren Missouri, Spire and Missouri American Water. Despite APUC continuing to pay out quarterly dividends during a global recession and rebounding above pre-pandemic levels in valuation no additional funds were allocated after the one-time infusion of cash across 14+ utilities on April 8, 2020.

According to Staff's most recent (October 22, 2021) Case No. AW-2020-0356 COVID-19 monthly report, Empire has more customers with past-due accounts and more customers who have received a final disconnection notices at the end of September 2021 than the same month last year. There are also 22% fewer customers participating in payment plans in the month ending September 2021 than in September 2020. Empire's average mean residential arrearage amount for the month ending August 2021 is ***______ *** which is an improvement from what it was a year ago at ***______ ***. However, this still represents the second highest residential arrearage amount among regulated utilities in the state (second only to Evergy Metro).

Jacksonville Electric Authority

Q. Did you file testimony about APUC's assertions put forward in its failed attempt to acquire the Jacksonville Electric Authority in Empire's last rate case?

A. Yes. However, Empire refused to address my allegations, because, in part, they claimed that the Asbury power plant the Company stranded was outside of the Company's test year. As such, I am including this information yet again for the Commission's consideration and, hopefully, for a Company response.

Q. What is the Jacksonville Electric Authority?

A. JEA is the municipally run electric, water and sewer utility of Jacksonville, Florida, that has 466,000 electric customers, and 359,000 water customers. In October of 2019, the City of Jacksonville, Florida solicited bids to begin a five-month process to negotiate its sale. According to the *Florida Times-Union*:

> For entities that want to purchase JEA lock, stock and barrel, the threshold price to even get consideration would be in the range of $6.8 billion to $7.3 billion, according to information provided to interested buyers. . . .

> At a minimum, a deal would have to net at least $3 billion in cash for City Hall after covering some other big-dollar requirements.
>
> A purchaser of the entire utility would have to pay enough for JEA to wipe out all of its billions of dollars in debt along with some other financial liabilities and transaction costs from a deal.
>
> The sales price also would have to cover $400 million in one-time customer rebates if a deal ultimately goes through, plus $132 million for enhanced pension benefits for JEA employees and $165 million in employee retention bonuses.[26]

Q. What did APUC offer to acquire JEA?

A. APUC responded to the City of Jacksonville, Florida's public invitation to negotiate with the City regarding the sale of all or parts of JEA, but, since the City rejected pursuing negotiations with APUC, to my knowledge APUC has taken no further action to pursue acquiring any or all of JEA. However, I assume that APUC was prepared to bid at least the stated "threshold price for consideration" above or otherwise it would not have responded to the City of Jacksonville's public solicitation.

Q. How does what APUC stated in its response to the City of Jacksonville regarding APUC acquiring all or part of JEA compare to the terms upon which Liberty acquired Empire in 2017?

A. Ontario-based APUC, through its subsidiary Liberty Utilities Company, agreed to pay $2.4 billion for Empire and its affiliates, including the assumption of approximately $900 million of debt. Both shareholders and customers fared differently in the acquisition. Notably, Empire's shareholders received $34 per share of common stock in cash upon closing of the merger. This represented a 50 percent premium to the presale announcement closing stock price of $22.65 on December 10, 2015.[27]

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[26] Bauerlein, D. (2019) JEA for sale: bid price at least $6.8 billion. *Florida Times-Union.* https://www.jacksonville.com/news/20191005/jea-for-sale-bid-price-at-least-68-billion.

[27] Beecher, B. (2016) "Letter from the President" The Empire District Electric Company 2015 Annual Report http://www.annualreports.com/HostedData/AnnualReports/PDF/NYSE_EDE_2015.pdf.

In contrast, citing Missouri as a "no net detriment state," Liberty Utilities did not include any explicit customer benefits (like, the opening floor requirement of $400 million in one-time rebates that Jacksonville seeks[28]) in its acquisition. Instead, Liberty premised Commission approval of its application on the basis that the "status quo" would be maintained, that is: management would remain as is, customer service metrics would not degrade, affiliate transaction rules would be complied with, and scale economies would be found.

Q. Has Empire adhered to those 2017 "status quo" conditions?

A. I do not believe so, and I will explain why.

Q. What does APUC's attempt to buy JEA have to do with this Empire rate case?

A. On October 4, 2019, APUC responded to the City of Jacksonville's public solicitation of interest to acquire all or part of JEA with its letter titled, "Response to the city of Jacksonville's invitation to negotiate in respect of strategic alternative for the Jacksonville Electric Authority."[29] The contents of APUC's proposal as well as those of sixteen other respondents were made public on JEA's website.[30]

Within its response, APUC made certain representations about its regulated utilities, including specific references to those in Missouri. I would like to take this opportunity to provide a fact-check to those representations for the Commission's consideration.[31]

Q. What representations did APUC make regarding customer commitment?

A. Algonquin stated:

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[28] OPC had filed testimony recommending a bill credit of $100 per customer resulting in as much as $21 million total dollars as a result of the acquisition. However, Liberty rejected this proposal and OPC ultimately withdrew this request.

[29] See Sch. GM-3 and/or https://www.jea.com/microsite/promise/pdf/blue-Algonquin_Power_Utilities_Corp-01-Respondent_Reply.pdf.

[30] JEA (2019) What's Next for JEA: Strategic Alternatives ITS Responses. https://www.jea.com/microsite/promise/promise html.

[31] It is important to note that Missouri electric customers represent approximately 60% of Liberty Utilities regulated electric customers (or roughly 166,000 out of 266,000 customers) which also includes customers in its Calpeco Electric System (California), retail choice Granite State (New Hampshire) operations, and adjacent vertically-integrated Empire states (Kansas, Arkansas and Oklahoma). Therefore, the representations made within the JEA document need to be tempered with the fact that my conclusions omit the non-Missouri customers.

> The Respondent measures and benchmarks its customer interaction performance with all the industry best practices and protocols and procedures including tracking customer calls, measuring call wait times, tracking disconnected or dropped calls, measuring average interaction times and tracking resolution success metrics. The Respondent tracks its overall performance in relation to its customer interactions with a number of third party evaluations including but not limited to bi-annual JD Power assessments. **<u>Respondent's respective utility operations consistently rank in the top quartile of its peer group in these third party assessments</u>**.[32] (Emphasis added).

Q. Did APUC accurately portray Empire's electric operations at the time of the failed acquisition?

A. No. According to the most relevant J.D. Power scores Empire provided to the OPC through discovery at that time, in 2018 JD Power & Associates ranked Empire ***___ *** out of 138 electric utilities resulting in a ***_____ *** quartile placement. The results for Empire's electric operations are reprinted here in Figure 6.

[32] Ibid.

Figure 6: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study Results: Empire District Electric Overall Results***

*** Across the board Empire's third-party metrics are all in the *** *** A further breakdown in perceived customer value can be seen in each category relative to the national average in Table 3. Additionally, for cross-reference, I have included the high, low, average and Missouri-specific JD Power overall scores for electric utilities in Table 4, as well as the national average.

Table 3: 2018 JD Power Scores of Empire compared to National Average***

***

Table 4: High, low, average and Missouri-specific utility scores within the 2018 JD Power results***

*** As seen in Table 3, Empire has scores in certain categories that are significantly ***____ *** than its scores in other categories. Specifically, the areas of ***____ *** are categories that are more than ***____ *** than the national averages. Table 4 illustrates a similar picture as there are more than a ***__ *** points separating Empire from the highest scoring utility, but only ***_ *** points separating it from the lowest scoring utility in the nation in terms of overall customer satisfaction.

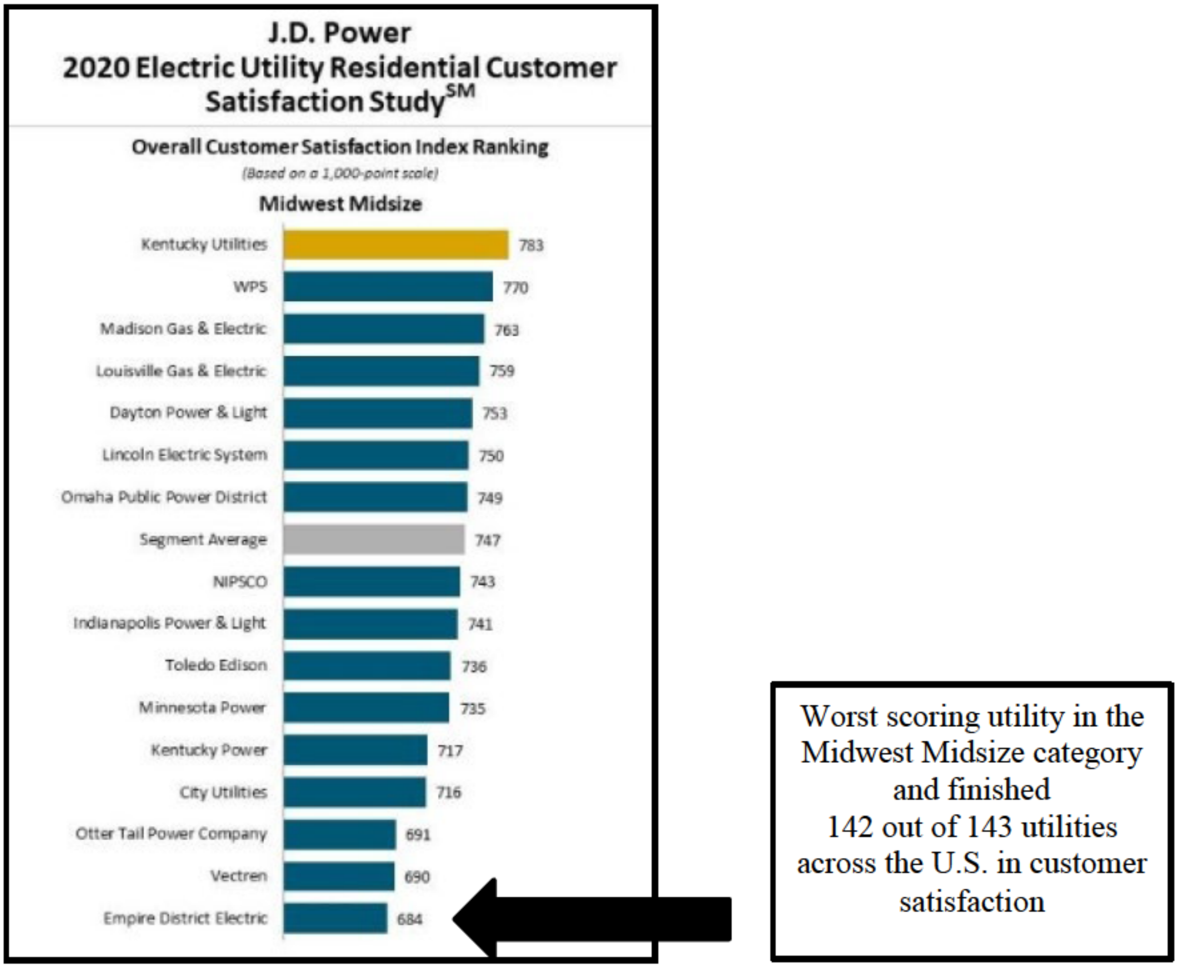
Q. Are JD Power Scores the definitive statement on customer service?

A. No. While they do provide a meaningful measure of a utility's performance relative to its peers, all else being equal, I would caution the Commission with reading too much into JD Power scores, as timing of rate cases, weather events, and other confounding variables can have an impact in any given year. That being said, the differences in the Empire-specific JD Power results relative to APUC's representations are vast and disconcerting.

Q. Has Empire improved its J.D. Power scores since then?

A. No. They have gotten worse. In fact, Empire scored last in the Overall Customer Satisfaction Index Ranking for Midwest Midsize utilities as shown in Figure 7:

Figure 7: J.D. Power 2020 Electric Utility Residential Customer Satisfaction[33]



Q. Did APUC make any representations about positive call center metrics for Empire?

A. No, not explicitly. APUC merely stated:

> The Respondent measures and benchmarks its customer interaction performance with all the industry best practices protocols and procedures including tracking customer calls, measuring call wait times, tracking disconnected or dropped calls, measuring average interaction times and tracking resolution success metrics.[34]

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[33] J.D. Power. (2020) Electric Utilities' Good Deeds—and Communication about Them—Pay Off During Pandemic, J.D. Power Finds.https://www.jdpower.com/business/press-releases/2020-electric-utility-residential-customer-satisfaction-study

[34] Ibid.

Q. Empirically, what are Empire's call center metrics pre- and post- APUC's 2017 acquisition of it?

A. Table 5 provides a breakdown of average select call center metrics from 2014 through Sept. of 2021. This provides roughly a three-year snapshot of Empire's call center metrics.[35]

Table 5: Select Empire District call center metrics pre- and post-2017 acquisition[36]

	Avg. Talk Time (hr min.sec)	Avg. Agent Call Wait Time (hr min.sec)	Avg. Not Ready Time (hr.min.sec)	% Abandoned	Avg. Speed of Answer (min.sec)	Calls Answered 30 Sec or less
Pre						
2014	0:02:58	0:01:59	0:28:05	4%	0:25	83%
2015	0:02:58	0:01:48	0:29:04	3%	0:22	83%
2016	0:03:19	0:01:44	0:36:23	3%	0:24	80%
Post						
2017	0:03:32	0:01:53	0:37:45	4%	0:30	78%
2018	0:03:19	0:01:18	1:00:31	5%	0:56	64%
2019	0:02:58	0:01:38	1:01:35	4%	0:43	69%
2020	0:03:38	NA	0:47:13	2%	0:21	84%
2021	0:03:54	NA	0:55:33	2%	0:29	80%

At first blush, it appears as though the metrics are a bit of a mixed bag. I defer to the Missouri Public Service Commission Staff on whether or not these call center metrics represent a statistically significant decline in Empire's quality of service. I welcome any insight and/or recommendations they have on this matter, preferably in rebuttal testimony.

Q. What representations has APUC made regarding how it treats its customers and the community it serves through its planned investments?

A. In its JEA bid Algonquin stated:

> History is strewn with examples of first movers and early technology adopters that in the fullness of hindsight turn out to be cost transient undertakings: AMR vs. AMI, CFB's [sic] vs LED technology, investing in IGCC, new nuclear, coal gasification, etc. There is certainly a place for technology pioneers and first movers, but this is a model

[35] The acquisition was completed in January of 2017.
[36] See also Sch. GM-4, Empire reply to OPC Data Request 2082 and OPC Data Request 2008

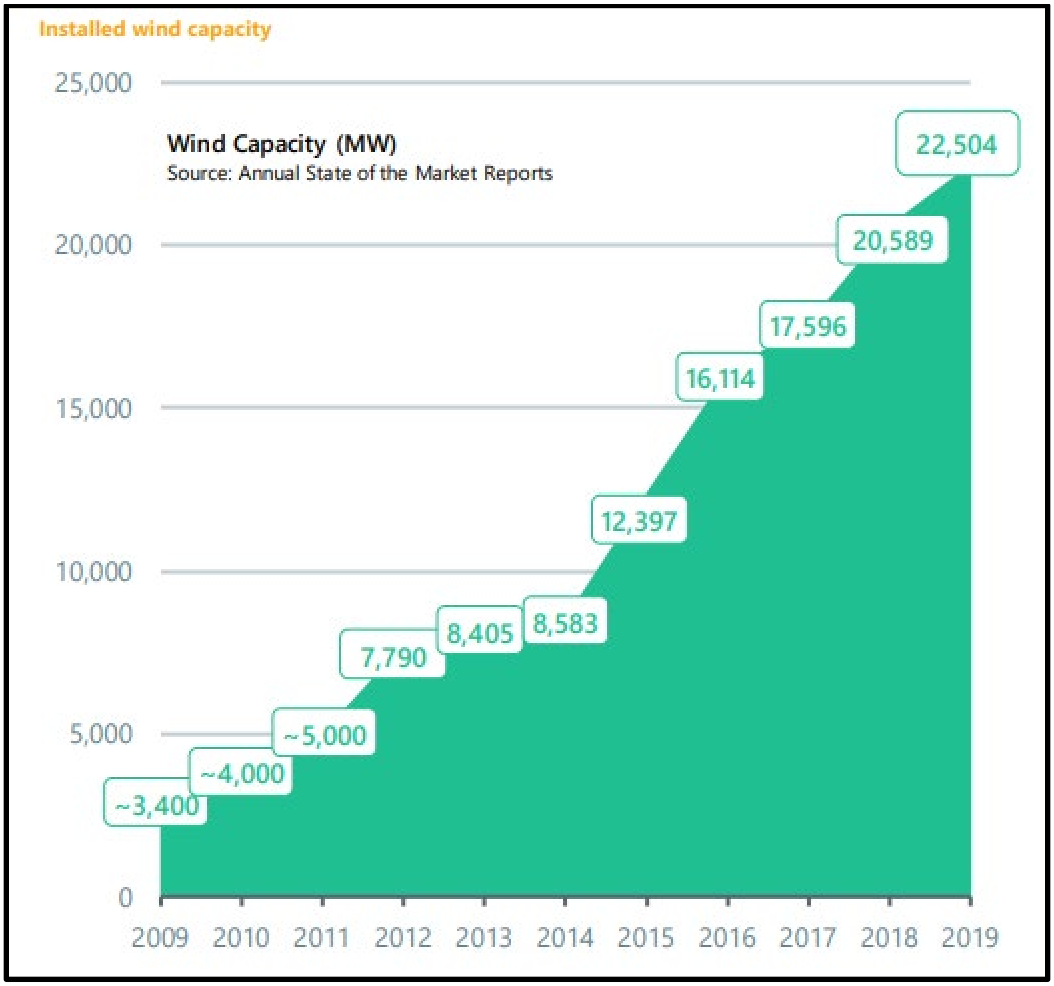
> that is rarely applicable to the utility industry that has an obligation to serve its customers reliably, to make prudent investment decisions and provide its services at an affordable cost. **Jumping in with some new bet on some costly nascent "disruptive" concept** (like cloud electric trading technology) **is not what companies who care about their customers can practically do. Utilities cannot be failure pioneers when working with other people's money and when impacting their community's everyday quality of life.**[37] (Emphasis added).

Q. Does Algonquin accurately portray your experience with Empire as a subsidiary of APUC and Liberty Utilities?

A. No. In multiple cases now, I have been a vocal critic of Empire's decision to depart from the traditional cost-of-service model to place a bet, "with other people's money," on a captive-retail customer-backed, merchant generation scheme by acquiring and adding an additional 600 MW or more of wind generation to its rate base. The lack of objective, empirical analysis, the needless 40% increase to Empire's rate base, and the shifting of risk to be borne by ratepayers is an enormous concern, and is a substantial cost moving forward. APUC/Liberty/Empire's actions to date look exactly like they have made Empire into a utility that has placed itself in a position to be a "failure pioneer" with other people's money. If Empire's "Customer Savings Plan" does not materialize as planned, then Empire's retail customers (not insulated shareholders or tax equity partners) will experience a negative impact on their everyday quality of life. I believe such an outcome is likely for a variety of reasons, including (but not limited to) Empire's refusal to update its models with accurate data, and its failure to account for the diminishing marginal utility of excessive wind generation coming onto the SPP market. Figure 7 includes the year-over-year accredited wind capacity in the SPP market, which are already out-of-synch with what their models predicted.

[37] Ibid.

Figure 7: Year-over-year SPP wind capacity [38]



In considering how abundant supply suppresses demand, remember that Empire's 600 MW of wind farms are not being built to meet the electricity needs of Empire's customers, but rather as a means for Empire (and, ultimately, APUC) to build out rate base under the pretense that profits from excess sales in the SPP energy market will offset the costs. For Empire's retail customers, a successful outcome is solely dependent on those 2021 (and beyond) SPP sales

[38] SPP (2021) An Introduction to Southwest Power Pool. https://www.spp.org/documents/31587/spp101%20-%20an%20introduction%20to%20spp%20-%20all%20slides%20print.pdf

profits to be as large as possible. For shareholders, their profits increase exponentially the moment Empire's rate base is enlarged with the excess generation.

Q. Is it likely that these ratepayer-backed merchant generation wind investments will generate revenues in excess of costs to prevent customers from being harmed?

A. Consider what SPP's 2021 market monitor had to say on new generation:

> **<u>Given the relatively low average SPP market prices, the MMU does not expect SPP market prices to support new entry of generation investments</u>**. While the SPP market on its own offers low incentives for new generation, some reasons for new generation investments include expansion of corporate renewable goals, SPP market protocol requirements, federal and/or state incentives, state-regulated investments, emerging technologies, and emission reduction plans. . . . In 2020, SPP market revenues were also insufficient to support the cost of new entry of renewable generation, wind and solar. . . . As the market is currently designed, it does not incentivize new entry for energy capacity.[39]

Empire's ratepayer-backed merchant generation wind farms are entering into a market that does not support new generation investments and is competing with even more intermittent generation coming online. This underscores my concern about the likelihood of the Customer Savings Plan producing enough savings to approach the cost overruns, still uncertain costs related to SPP interconnection and risks associated with curtailments from excess fatalities of protected and endangered species from these capital investments.

Q. Have you raised these concerns before?

A. Yes. Every chance that I could. I stated the obvious problem in building out intermittent merchant generation when everyone else in the SPP was doing the same thing and the SPP was publically stating it would downgrade its wind valuation due to the surplus and non-dispatchable nature.

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[39] SPP (2021) State of the Market 2020.
https://www.spp.org/documents/65161/2020%20annual%20state%20of%20the%20market%20report.pdf p. 172-177.

Q. Did APUC make any representations about stranded costs in conjunction with its response to Jacksonville regarding its interest in acquiring JEA?

A. Yes, in passing, Algonquin stated:

> Load balancing and operating safety, effective cyber-security, least cost energy supply security, dynamic billing/metering, being socially responsible and helping out low income/special need customers, providing backstop safety-net supply, **and dealing with stranded costs are some of these issues that need holistic answers/approaches that are fair and responsible.** The "big thinkers" outside of the industry often underestimate these challenges and their importance in being a utility that actually benefits it's [sic] community. [40] (Emphasis added).

I have seen no evidence that APUC/Liberty/Empire intends to deal with the self-imposed stranding of the Asbury power plant (fifteen-years before the end of its planned life) in a manner that is fair and responsible to its customers. Instead, APUC/Liberty/Empire continue to want to earn a return on and of an investment that is no longer used or useful. Again, this action favors investors and penalizes Empire's captive customers.

Q. Did APUC make any other representations regarding its operations in Missouri in conjunction with its response to Jacksonville regarding its interest in acquiring JEA?

A. Yes. Algonquin referenced its merchant wind generation investment bet and the premature retirement of Asbury as follows:

> One example of rhetoric made action is the Respondents Midwest "greening the fleet" initiative. This was one of the first such projects in the country that was not a simple "demo" project using tax dollars or rate surcharges to subsidize cost-inefficient technology applications. **It was the real substitution of a perfectly usable mid-life 600mW[sic] coal plant and replacing that with 400mW [sic] of renewable (wind) generation**. While such a substitution may on the surface seem commonplace, to do so at a cost that resulted in a net savings to the customer was

[40] See Sch. GM-3.

> highly innovative. The full levelized cost of the power generated from the new wind turbine fleet was proven to be lower than the incremental variable operating costs of the mid-life coal fired generation plant.[41] (Emphasis added).

Q. Is APUC's characterization of its "greening the fleet" initiative at Empire accurate?

A. No. First, there is no "substitution" here. If Empire had offered to substitute its "return on and of" its 198 MW Asbury Coal Plant in exchange for "a return on and of" 600 MW of wind there *might* be an equitable substitution. However, Empire wants to continue to reap profits on its stranded investment in Asbury, regardless of whether this "perfectly usable mid-life coal plant" is "used and useful."

Next, I am not sure what "demo projects" Algonquin is referring to "that utilized tax dollars or rate surcharges to subsidize cost inefficient technology applications." The Customer Savings Plan will utilize tax credits (in part) and wants to utilize the FAC surcharge. I do agree that Asbury was a perfectly usable mid-life coal plant; however, Asbury's SPP accredited capacity was about 198 MW, not 400mW. Moreover, the "Customer Savings Plan" is for 600 MW of wind across three different locations not 400mW as APUC stated.

I also take issue with the assertion that such a substitution of generating resources is commonplace (even "on the surface"). Nothing about using captive ratepayer funding for a merchant generation business as designed in the "Greening the Fleet / Customer Savings Plan" is commonplace. Moreover, to date, costs of the wind projects are still unknown and uncertain. That uncertainty includes costs related to SPP interconnection and future uncertainty surrounding forced curtailment due to conservation concerns.

Finally, I take issue with Algonquin's characterization that the "full levelized cost of power" (LCOE) of the new merchant generation is lower than the continued costs of the "perfectly usable, mid-life, coal-fired generation plant."

[41] Ibid.

The *cost* of the energy, does not necessarily say anything about the *value* of that same energy over the lifetime of a generating plant. Value depends not solely on the cost of generating the energy being sold in a market; it also depends on the price for which that energy can be sold in that market. When prices vary continuously over time in increments as small as five minutes, and by location, it is not appropriate to look solely at the LCOE as the north star of supply-side generation economic feasibility metrics—at least not in the merchant generation business where revenue margins are the only thing that matters. Most price value derives from generating electricity when demand for electricity is highest, *i.e.*, when people most need electricity. That is, primarily during hot summer days when wind output is low or nonexistent.

Q. What representations did APUC make regarding managing and controlling its activities with regard to rate shock?

A. In its response to Jacksonville regarding its interest in acquiring JEA Algonquin stated:

> **<u>Respondent is always cognizant [sic] of stakeholder sensitivity to utility rates and tariffs and particularly to the rate shock that may be occasioned by unique events.</u>** The Respondent manages such concerns across its 40 individual utility operations. **<u>A utility owner has many tools at its disposal for the responsible management of customer tariffs including the timing and lumpiness of capital expenditures, maintaining or enhancing operating cost efficiency, effective use of debt and equity, etc.</u>** Such situations are always easier when a utility owner is free to manage all the various elements impacting rates and to engage in long term advance planning.[42] (Emphasis added)

Q. Does APUC accurately characterize Empire's actions since APUC acquired it in 2017?

A. No, it does not accurately characterize my experience with Empire post acquisition. A utility that "is <u>always cognizant</u> of stakeholder sensitivity to utility rates" would not have to be ordered by its Commission to adjust its rates to reflect the federal corporate tax reductions from

[42] Ibid.

the Tax Cuts and Jobs Act of 2017. No "a utility owner that is free to manage the various elements impacting its rates" for the benefit of its retail customers would not delay the rate reduction savings of that Act out over two separate contested cases and 240 days after the Act was enacted. It would be sure to flow those savings back to its customers immediately. Instead, Empire has, rather successfully, delayed flowing the benefits of the Tax Cuts and Jobs Act of 2017 to its Missouri customers, the lion's share of its electric customer base. APUC controlled Empire was the only utility in Missouri to fight to keep those customer savings.

A utility that "is <u>always cognizant</u> of stakeholder sensitivity to utility rates" wouldn't attempt to recover all of the Storm Uri costs and carrying costs from ratepayers when its FAC allows 95% recovery.

I also take issue with APUC's representations that it always displays responsible management by minimizing the timing of the lumpiness of capital expenditures. The entirety of the eleven-month ordeal (10-5-2017 to 8-22-2018) of Case No: EO-2018-0092 (*In the Matter of the Application of the Empire District Electric Company for Approval of Its Customer Savings Plan*) was needlessly unnecessary and, in my opinion, imprudent.

Q. What do you mean?

A. As Commissioner Hall stated during the evidentiary hearing in Case No. EO-2018-0092 (where Empire sought Commission pre-approval of a plan to retire Asbury and build 800 MW of new wind generation):

> <u>Commissioner Hall:</u> And that actually segues right into my next question. Why isn't this a CCN proceeding? Why wouldn't that have been the most simple way to address this, just file for a CCN, and then we could have made a decisional prudence decision and you guys could be off and running? Why—this seems unduly complicated.[43]

Commissioner Hall was correct. APUC/Liberty/Empire through Empire's management have made Empire's merchant generation investments unduly complicated by mismanaging Empire's capital investment timing. Empire should have filed for a CCN in October of 2017.

[43] EO-2018-0092, Transcript-Volume 3 (Evidentiary Hearing 5-9-18) p. 61.

Instead, it wasted a year securing "regulatory guidance"—the same guidance it could have obtained by seeking a certificate of convenience and necessity for its planned wind projects. As a result, all parties had to go through essentially the same exercise a second time in 2018. The net effect was not just an additional year of regulatory resources and opportunity costs expended in a second-round of Customer Savings Plan analysis, but one less year of certainty surrounding Commission approval of an investment—wind projects—with cost-dependent strings tied to an operational completion dates that were extended.

Q. Has APUC/Liberty/Empire made any representations about Empire's electric rates?

A. Not recently that I found, and not directly in the JEA response. In Empire's last rate case I referenced APUC's 2019 *Sustainability Report* which stated on page 27, under "Modernized and Affordable Energy," that Liberty's rates were on average $3 cheaper than other utilities in Missouri. The Company's most recent 2021 report omits any mention of rate comparisons, affordability or customer costs and only mentions the phrase "rates and pricing" once as a "key concerns raised" with no further context out of its 140-page document to investors.[44]

Q. Is the 2019 rate comparison an accurate comparison of the cost of Empire's electric service in Missouri to those of other Missouri utilities?

A. No. In the 2019 case I showed how Empire's residential customers pay, on average, approximately $500 more annually and $40 more monthly than residential customers of Evergy Metro, Evergy West, or Ameren Missouri. The delta between the utilities was driven primarily by "increased cost of service", space-heating usage and poorly insulated homes. The combination of items led me to conclude, based on empirical SNL billing data that Empire had, on average, the fourth largest annual residential bill in the United States.[45]

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[44] Algonquin Power & Utilities Corp. 2021 ESG Report. https://algonquinpower.com/uploads/docs/AQN-ESG-Report-2021.pdf

[45] To be clear, my 2019 analysis identified only three utilities with higher annual average residential bills who each operate entirely on islands. In the ocean. Empire operates in southwest Missouri.

Q. Do you have more up-to-date rate comparisons?

A. Yes. Table 6 shows a breakdown of utility bundled sales for ultimate customers in 2020 per data from forms EIA-8161 schedules 4A& 4D and EIA-861S and Table 7 shows a breakdown of Edison Electric Institute's summer average rates across investor-owned Missouri utilities by customer class.

Table 6: EIA end-of-year 2020 Utility Bundled retail sales of "comparable" Missouri utilities

Utility	Ownership	Customers	Sales (MW)	Revenues	Average Price
Barton County	Coop	6564	159,345	17,763,000	11.15
Sac Osage	Coop	11,121	151,722	19,353,200	12.6
Ozark	Coop	40,179	681,472	68,823,000	10.10
Barry	Coop	9,677	182,820	20,639,500	11.29
New-Mac	Coop	18,131	395,081	43,124,000	10.92
Southwest	Coop	42,447	579,109	42,447,000	10.86
Webster	Coop	18,615	372,528	18,615,000	8.46
White River Valley	Coop	45,252	735,483	45,252,000	12.62
Laclede	Coop	37,531	631,731	65,689,000	10.40
Se-MA-NO	Coop	6,106	112,216	9,955,800	8.87
Springfield	Muni	117,302	2,913,253	255,412,000	8.77
Empire	IOU	157,395	3,975,534	453,846,200	11.42
Evergy West	IOU	331,947	7,979,927	757,429,600	9.49
Evergy Metro	IOU	296,549	8,053,771	860,861,200	10.69
Ameren Missouri	IOU	1,235,266	30,601,887	2,674,841,000	8.74

Table 7: Edison Electric Institute Summer Rates Missouri

	Total	Residential	Commercial	Industrial
Ameren Missouri	8.44	10.02	7.50	6.11
Empire District	11.51	13.50	11.27	8.24
Evergy West	9.71	11.49	8.89	6.69
Evergy Metro	9.23	13.34	10.24	7.44

Q. Did the City of Jacksonville select Algonquin as one of its final candidates to explore further regarding the sale of part or all of JEA?

A. No. It's proposal was rejected.

Jacksonville Electric Authority Summary

Q. What are the main points the Commission should note from this section of your testimony?

A. A non-exhaustive list of concerns raised by representations APUC made in its response to the City of Jacksonville's solicitation of interest in acquiring all or part of JEA are included in Table 8.

Table 8: Summary of Section II: Jacksonville Electric Authority

APUC/JEA	OPC observations of APUC/Liberty/Empire
JEA bid to include (a minimum of) $400 million in immediate customer benefits	Empire bid included no customer benefits—status quo.
Utility operations consistently rank in the top quartile of its peer group in third party assessments—J.D. Power	J.D. Power scores in the ***______________ ______________________________________ ________ ***
Measures and benchmarks its customer interaction performance with all the industry best practices protocols and procedures	True and the metrics have declined.
Don't make bets with other people's money	Made a bet with other people's money (shift risk) and will increase rate base by 40% (gain reward)
Cannot be failure pioneers	Placed customers at risk of being a failure pioneer by betting that excess wind generation will generate sustainable revenues to offset costs of an investment not needed
Stranded costs should be dealt with fair and responsibly	Created stranded costs where none existed, and wants to keep the profits regardless of the plant no longer being "used and useful."
"Greening of Midwest" was a "real substitution of a perfectly usable mid-life 600mW[sic] coal	Put ratepayers in the position to have to back a merchant generation investment of 600 MW of wind

plant and replacing that with 400 mW [sic] renewable (wind) generation"	at unknown costs, which then created a stranded asset of its newly retrofitted 198 MW coal plant that it wants to continue to earn profits on.
Cognizant of stakeholder sensitivity to utility rates and tariffs	Only electric utility to refuse to flow Tax Cuts and Jobs Act of 2017 tax savings back to customers
Cognizant of stakeholder sensitivity to rate shock	See GM-2 regarding the $2 billion in planned PISA investments across 150,000 customers in four years
Responsible management in inducing the timing and lumpiness of capital expenditures	Inappropriate filings and mismanagement of the timing of capital investments with its FAC
Missouri electric rates lower than other utilities in the state (2019 Sustainability Report)	Highest IOU rates in the State of Missouri and the fourth largest average annual residential bill in the United States (S&P Global)

III. STRANDED ASSET: ASBURY POWER PLANT

Q. What is a stranded asset? [46]

A. A "stranded asset" is a term that has different meanings depending on the context. Assets become stranded if their expected cash flow is less than their remaining book value—in other words, if the asset is expected to generate less revenues than it will cost from a point in time until the end of its useful life. Regulation-based stranded assets differ from market-based stranded assets. The latter simply compares the book value of an asset relative to some future market value of the asset. For example, if an oil reserve has $1 billion book value but sliding demand due to carbon taxes or other environmental regulations reduces its market value to $400 million, the result is $600 million in stranded assets. By contrast, regulation-based assets are assets that are subject to cost-of-service or other rate-of-return regulation. Government regulators have explicitly approved this type of asset to earn a return over a

[46] Economist Robert Michaels made a compelling argument in a 1994 essay that, in "220 years of speculating on the nature of competition since Adam Smith, economists got along fine without ever developing such a concept as "stranded costs." The idea is a new invention. No other business has had such a "right" in its arsenal to shield itself from the effects of dynamic competition. See, Michaels, R. (1994), "Unused and Useless: The Strange Economics of Stranded Investment," *The Electricity Journal*, October, pp. 12-22.

defined period at some point in the past if the asset is deemed "used" and "useful."[47] A regulated supply-side asset is meant to provide service throughout its life to the captive customers who are paying for its use. That is, absent government-sanctioned intervention or a categorical loss in load (*i.e.*, "a death spiral"), a regulated asset should not become stranded.

Q. What is an example of a government-sanctioned intervention that could strand a regulated asset?

A Deregulation is the most obvious recent historical example. At the turn of the century, many states passed laws to deregulate their vertically integrated electric utilities and create a competitive generation market. In theory, under deregulation, electricity prices would more closely align with economic, not accounting, costs. In vertically-integrated regulated states (like Missouri) electricity prices are based on utilities' actual expenditures, and utilities have little reason to control costs, because cost reductions ultimately are passed on to consumers. Additionally, regulators allow utilities to earn a specified rate of return on capital expenditures to "incentivize" investment in capital-intensive facilities. That is, utilities have a perverse incentive to increase a rate base. In contrast, in a competitive market, asset owners reap more benefits for lower costs and, thus, are incentivized to minimize their costs, as cost-recovery is not guaranteed. [48]

Another historical example of a stranded asset is the significant cost overruns associated with mismanaged nuclear power plants that never became "used and useful." Whether or not these stranded investment costs were recovered from captive ratepayers varied

[47] To ensure affordability and full utilization of the asset, the cost recovery generally is amortized throughout its expected "useful life." The asset costs are allocated to all customers on a pro-rata basis, and are generally recovered on a volumetric basis. As the number of customers change, the volumetric charge is adjusted so that the utility only recovers the value of the asset (including associated potential profit).

[48] Deregulation or "industry restructuring" is different from the wholesale markets, which each of our electric utilities in Missouri participate in. In a wholesale market, utilities buy and sell power among themselves or from independent merchant generators at prices that reflect conditions of supply and demand.

depending on the circumstances and the government regulator. Some utilities had to write off their uneconomic assets, while others did not.

A final example scenario where an asset may be a stranded investment is where there is an aggressive government-sanctioned compliance policy that makes the asset uneconomic. Examples of such policies are renewable portfolio standards ("RPS"), carbon pricing schemes (see Regional Greenhouse Gas Initiative "RGG" states), and carbon-emission reduction standards (see California and its historical natural gas distribution investment or the now defunct U.S. Clean Power Plan "CPP").

Q. Have Missouri electric utilities been subjected to any events beyond their control that could strand investment?

A. No. Missouri did not deregulate its generation assets from its regulated utilities. It is a vertically integrated state (distribution, transmission, and generation are owned by the same entity).

Moreover, Section 393.135, RSMo, is in place. It prevents the cost recovery of investment in any existing or new facility of an electric corporation before it is fully operational and used for service. This voter-driven initiative was spurred, in part, from the large capital overruns of nuclear power plants across the United States in the 1970s, including Union Electric Company's Callaway nuclear plant.

Missouri does have a RPS, but a 1% retail rate impact cap tempers any excessive costs associated with this mandate, and that standard has not stranded any asset.

Finally, Missouri electric utilities do not experience any carbon pricing penalty and are not subject to any enforceable state-level emission reduction targets.

There are no events beyond its management's control that could be said to have induced Empire to strand its investment in the Asbury power plant.

Q. Then why is Asbury a stranded asset?

A. Current Empire management has chosen to retire Asbury fifteen years before the end of its useful life due to actions it has elected to take. There remains a significant remaining book value that Empire has not yet recovered for its environmental capital investments in Asbury that it made before Empire's management chose to retire Asbury on its books as of March 1, 2020.

Q. Has the OPC raised the issue of rate impacts due to Empire retiring Asbury?

A. Yes. We filed testimony in Case No. ER-2019-0374; however, the Commission did not address this stranded asset issue in that case. As such, this is OPC's first opportunity. That Empire was contemplating prematurely retiring Asbury was raised first by Empire witnesses in Case No. EO-2018-0047 as part of Empire's "Customer Savings Plan" where Empire sought regulatory guidance for building up to 800 MW of wind generation and retiring Asbury; however, the non-unanimous stipulation and agreement all parties except the City of Joplin and the OPC executed included Empire's agreement to defer deciding when it would retire Asbury.

The issue of Asbury's premature retirement was not part of any prefiled testimony in Case No. EA-2019-0010; however all parties, except OPC,[49] entered into a last-minute non-unanimous stipulation and agreement in that case which included three separate provisions related to Asbury being retired.[50,51] Despite that agreement, the Commission ruled in its Report and Order that:

> In this case, the sale or retirement of Asbury is not certain. In fact, from the evidence presented, it is not known whether the removal of Asbury from Empire's generation fleet, if it occurs, will be accomplished through a sale or a closure. Thus, the effect on rates from the undepreciated plant value, the capital costs, depreciation expense,

[49] The City of Joplin was not an intervening party in that case.
[50] Filed Friday, April 5th before the evidentiary hearing on Monday, April 8th.
[51] The regulatory asset contemplated in that non-unanimous stipulation and agreement included an undepreciated balance of the Asbury facility estimated at approximately $200 million.

> property taxes, operations and maintenance expense, fuel costs, SPP revenues and any deferred income tax effects are completely unknown. Further, there has not been sufficient evidence provided to show that this sale or retirement would be "extraordinary" under the definition as set out in the USOA. Further, because these events have not yet occurred, when they do occur, the signatories could present this to the Commission as a formal request for an accounting authority order where the facts can be reviewed with more certainty, less speculation, and under the appropriate burden of proof.
>
> Empire and the other signatories to the *Non-Unanimous Stipulation and Agreement* have not shown that conditions related to possible Asbury closure or sale are reasonable or necessary. The Commission finds it would be premature to set out any conditions related to the possible sale or closure of Asbury. Additionally, the parties have not proven that this possible sale or closure will produce an extraordinary circumstance such that the Commission should take the unusual step of conditioning the grant of a certificate of convenience and necessity on this particular accounting treatment. The Commission will not impose the conditions set out in Paragraph 17 of the *Non-Unanimous Stipulation and Agreement*.[52]

Empire was required to file its new triennial IRP before the Commission took evidence in its main evidentiary hearing in Empire's Wind CCN case; however, Empire asked for and received an extension to file that IRP until the end of June, after the Commission decided Empire's Wind CCN case. On June 28th, 2019 Empire filed its triennial IRP which included the retirement of Asbury as part of its preferred modeled plan.

[52] EA-2019-0010 Report and Order p. 48.

Pre-Acquisition Treatment of Asbury

Q. When was Asbury commissioned?

A. The Asbury Power Plant Unit 1 was originally commissioned in 1970 with an accredited capacity of 213 MW.

Q. What did Empire do in 2015 to extend its useful life?

A. To comply with federal air quality regulations in order to continue to run Asbury beyond 2015, in 2015 Empire installed a state-of-the-art Air Quality Control System ("AQCS") to remove sulfur dioxide, particulate, mercury, and other pollutants. Asbury was also retrofitted with a Selective Catalytic Reduction ("SCR") located upstream of the AQCS and a Distributed Control System ("DCS"). The facility *also* switched to Powder River Basin ("PBR") coal at a ratio of approximately 90% with approximately 10% local (Illinois) coal.[53] Asbury was also able to bend up to approximately 2% rubber tire derived fuel ("TDF") but let its contract expire in March of 2018. These collective upgrades extended the useful life of the plant more than twenty years and made the coal unit one of the cleanest in Missouri. [54]

Q. Was that decision prudent?

A. I believe so. No party challenged the cost recovery of these investments when they went into rates in Empire's rate case, Case No. ER-2016-0023. Figure 8 includes a snippet from The Empire District Electric Company 2015 Annual Investor Update on February 26, 2016 highlighting the environmental compliance modification and recovery in rates.

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[53] For reference, Ameren Missouri's Labadie and Rush Island Power Plants did not elect to invest in scrubbers but instead relied on PBR coal to meet environmental compliance standards.

[54] A more detailed look at the history of Asbury investments can be found in the Direct Testimony of OPC witness John Robinett in this case.

Figure 8: 2016 Empire Investor highlight Asbury AQCS Project [55]

Q. Did Empire's 2015 investments in Asbury cause its customers' rates to increase?

A. Yes. Ratepayers experienced a compounded increase in rates of 62.23% over a ten-year period because of Empire's 2015 investment in Asbury, and the additional supply-side investments at Riverton, Plum Point, Iatan, Elk River and Meridan Way.

Table 9: Empire rate case history 2007-2016

Case Number	Dollar Value	Percent Increase
ER-2006-0315	$29,300,000	9.96%
ER-2008-0093	$22,040,395	6.70%
ER-2010-0130	$46,800,000	13.90%
ER-2011-0004	$18,685,000	4.70%
ER-2012-0345	$27,500,000	6.85%
ER-2014-0351	$17,125,000	3.88%
ER-2016-0023	$20,400,000	4.46%
Total Dollars	$181,850,395	
Total Compounded Increase		62.23%

[55] The Empire District Electric Company: Annual 2015 Investor Update (2016). http://www.snl.com/Cache/1500083524.PDF?Y=&O=PDF&D=&fid=1500083524&T=&iid=3005475.

Algonquin Acquisition

Q. Were you involved in both Empire's last rate case before Algonquin Power & Utilities Corp and the acquisition case for Algonquin Power & Utilities Corp to acquire it?

A. Yes.

Q. Did you object to APUC's acquisition of Empire?

A. Yes, initially. I initially recommended that the Commission reject APUC's acquisition of Empire. My rebuttal testimony opened with the following statements:

> As it stands, Empire ratepayers and regulators operate under the assurance of a known, stable local utility with over one-hundred years of operating experience. Approval of this acquisition would represent an increase in orders of magnitude at the level of organizational and affiliate complexity as well as a heightened risk of diluted managerial and fiduciary responsibility. There are no proposed standards from which to judge success, no cost-savings benchmarks to strive towards, and no proposed ring fence provisions to ensure captive ratepayers will not be exposed to increased harm. Instead, there are only aspirational, vague and often redundant claims of benefits generalized across four testimonies.[56]

Q. Did you file comments explicitly stating that Empire had no need for additional capacity post-acquisition due to the significant supply-side investments already made?

A. Yes. In my surrebuttal testimony I stated:

> For example, approval of the merger would not change the fact Empire has just added an additional 100MW in capacity in its Riverton 12 combined cycle unit. Moreover, according to Empire's recently filed triennial IRP, there will be no need for a MEEIA[57] and **no need for future capacity until 2029** as reprinted here in Table 9:

[56] EM-2016-0213 Rebuttal Testimony of Geoff Marke p. 3, 12-20.

[57] EO-2016-0223. The Empire District Electric Company Triennial Compliance Filing. Volume 7 Resource Acquisition Strategy Selection 7-8: "Empire's decision makers have selected Plan 5 as the Preferred Plan. Plan 5 contains no Missouri DSM portfolio and supply-side resources are not added until the latter part of the study period."

Table 9: Empire's Twenty-year Plan 5 (Preferred IRP Plan)[58]

Year	Common to All IRP Plans (Applies to Preferred Plan)	Plan 5 (Preferred Plan)
2016	By Mid-2016, Riverton 12 begins combined cycle operation (100 MW addition to the Empire system)	
2017		
2018		
2019		
2020		
2021		
2022		
2023	Energy Center Unit 1 assumed to retire for IRP purposes (82 MW loss)	
2024		
2025		
2026	Energy Center Unit 2 assumed to retire for IRP purposes (82 MW loss)	
2027		
2028	Meridian Way 105 MW Wind PPA expires (19 MW loss)	
2029		100 MW Combined Cycle, 100 MW Wind Resource
2030	Elk River 150 Wind PPA expires after 5-year extension (17 MW loss)	
2031		150 MW Wind Resource
2032		
2033	Riverton Units 10 and 11 assumed to retire for IRP purposes (33 MW loss)	
2034		
2035	Asbury Unit 1 assumed to retire for IRP purposes (194 MW loss)	200 MW Combined Cycle

Even if Empire needed to build additional capacity (which they do not), there is no guarantee that renewable capacity would be the preferred generation, the prudent choice, or the least cost option. **It is OPC's position ratepayers should not have to pay for any additional capacity in the near future**. This is especially true considering ratepayers have experienced a compounded increase in rates of 62.23% over the past ten years.[59] (Emphasis not in original cited testimony).

[58] EO-2016-0223. The Empire District Electric Company Triennial Compliance Filing. Volume 7 Resource Acquisition Strategy Selection 7-9.
[59] Case No. EM-2016-0213 Surrebuttal Testimony of Geoff Marke.

Q. Did other OPC witnesses express concerns?

A. Yes. OPC's consultants stated a variety of concerns including, but not limited to, the timing of capital investments, uncertainty-surrounding costs associated with a new Customer Information System ("CIS"), and diluted local managerial control. Liberty President, David Pasieka's surrebuttal testimony offered the following general observations regarding the OPC's rebuttal testimonies:

> A conceptual theme that runs throughout the testimony filed by the OPC witnesses is OPC's belief that Empire will be more risky within Algonquin's corporate structure because it will no longer be a pure-play, vertically integrated electric utility, but rather will become an operating subsidiary within Algonquin's corporate structure.[60]

Q. Did OPC sign into a stipulation and agreement with the recommendation that the Commission approve the transaction?

A. Yes.

Q. If OPC stipulated, then are not the raised concerns obviated?

A. I thought there were reasonable ring-fence provisions and appropriate regulatory oversight in place to mitigate my fears. I now believe I was wrong.

Q. Is there any circumstances of which the Commission should be aware during that timeframe?

A. Yes. Context is important. At the time, it seemed highly likely that US Environmental Protection Agency's ("EPA") Clean Power Plan would be enforced, and greater federal oversight on carbon emissions would occur. To be clear, Empire (that is, pre-acquisition Empire) was the utility best in position, in Missouri, to meet any new federal emissions standards because of its diverse fuel mix and significant environmental capital investments.

[60] Case No. EM-2016-0213 Surrebuttal Testimony of David Pasieka p. 6, 17-21.

Q. Did the State of Missouri oppose the Clean Power Plan?

A. Yes. Missouri and 20 others states sued the EPA for exceeding its authority in the Clean Power Plan.[61]

Q. Did the Missouri Public Service Commission file comments with the EPA expressing concerns with the Clean Power Plan?

A. Yes. The Missouri Public Service Commission filed comments on December 1, 2014, that included the following comments on stranded assets:

> To meet the EPA interim goal, Missouri would need to develop a state compliance plan taking into account the time needed to finance, permit, construct or commission new generation. The MoPSC notes that the interim goal does not adequately take into account potential delays in timing due to right-of-way obtainment or construction of new pipelines, transmission or generation facilities, which may be needed to achieve the interim goal. Additionally, **accelerated construction to meet aggressive goals may ultimately result in unintended stranded resources**. . . .

And

> The EPA notes that timing flexibility, such as that provided with the interim goals, allows states to develop plans that will help states achieve a number of goals including addressing concerns about stranded assets. Yet, in order to effectively meet a state's goals under the proposed timeline, it will be necessary to re-dispatch affected sources or add new generating capacity. **Accelerated construction to meet aggressive goals may ultimately result in unintended stranded resources**.[62] (Emphases added).

Q. Was it clear then how Missouri would comply with the Clean Power Plan?

A. No. There was a lot of uncertainty on the compliance end, but much less discussion on what would happen if the Clean Power Plan did not materialize. I did not believe that a utility would

[61] Herndon-Dunn, R. (2016) Clean Power Plan stayed by SCOTUS. *The Missouri Times.* https://themissouritimes.com/26920/clean-power-plan-stayed-by-scotus/.

[62] Kenny, R. et. al (2014) Re: Missouri Public Service Commission's Comments on the Clean Power Plan Proposed Rule under Section 111(d) of the Clean Air Act, Docket ID:EPA-HQ-OAR-2013-0602. https://www.ieca-us.com/wp-content/uploads/MO-Public-Service-Commission_12.01.14.pdf; see also Sch. GM-5.

voluntarily accelerate construction of assets (not needed to meet load) to strand existing serviceable assets in place. I certainly did not believe that a utility would continue to seek recovery of its investment in and an earnings profit off of that self-imposed stranded asset.

Project Red Balloon[63] ***

[63] See Sch. GM-6.
[64] Ibid.

[redacted]

[redacted]

[65] Ibid.

[redacted]

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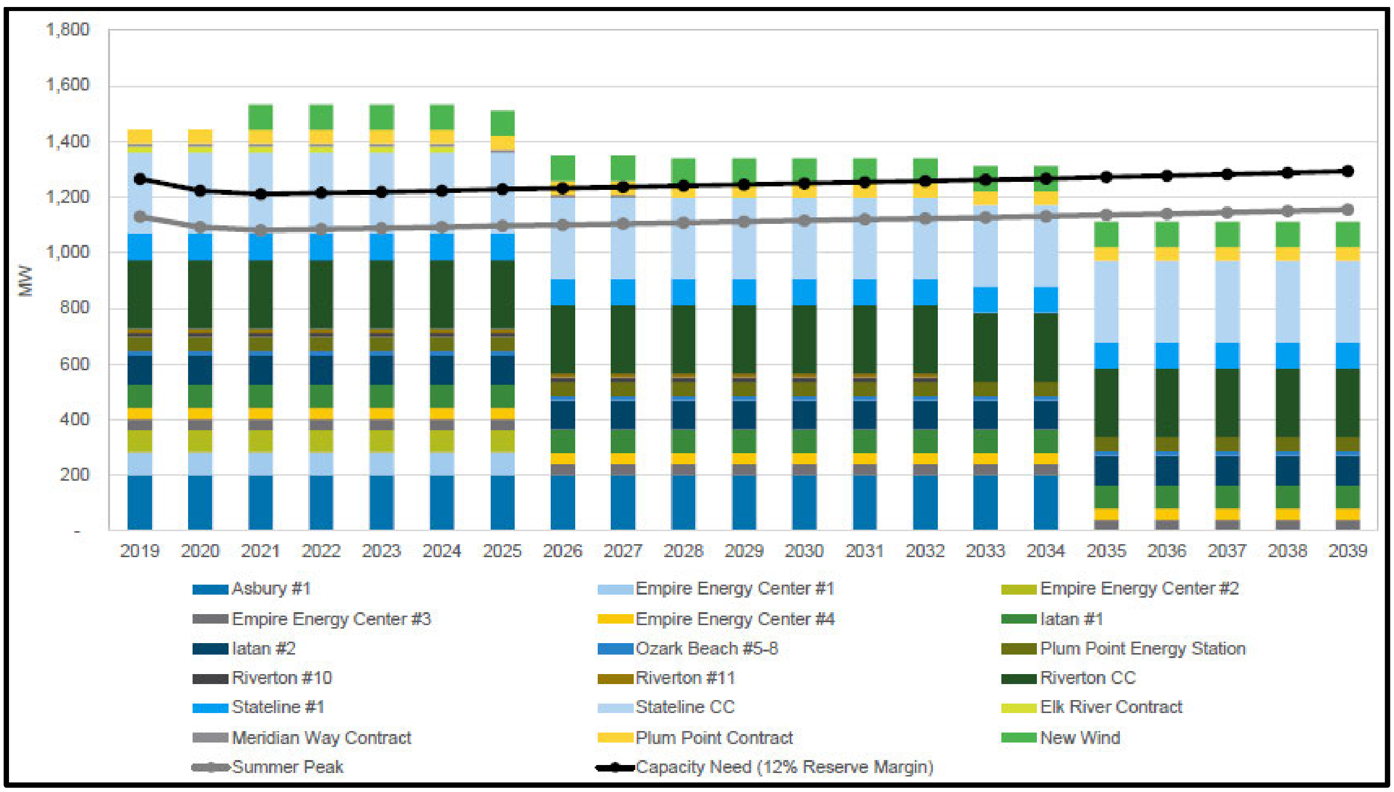
Retiring Asbury

Q. What does Empire's supply-demand balance look like today?

A. Today, Empire is long on capacity with the wind investment. Ratepayers have over-invested in supply-side generation as seen from Empire's most recently filed IRP in Figure 9.

Figure 9: 2020 IRP, Existing Empire Supply-Demand Balance[66]



[66] EO-2019-0049: The Empire District Electric Company—A Liberty Utilities Company volume 4: Supply-Side Resource Analysis p. 4-20.

Q. Is this a concern?

A. Yes. Remember, the wind investments are dependent on off-system sales revenues. If supply outstrips demand then those wind investments will have more difficulty covering their costs and ratepayer financial exposure will increase

Q. Did the wind investments make Asbury uneconomical?

A. I would say yes, with a qualification.

Q. What do you mean?

A. In Figure 9 above, Asbury is listed at the bottom with a 2034 retirement date. Assuming a SPP 12% reserve margin stays in place, Empire would have no need to make additional supply-side investment until then. The problem in Figure 9 is how to manage the years out until 2032, and especially out to the year 2026. During that timeframe, Empire will effectively have "too much" generation. The additional wind investment makes Empire's portfolio uneconomic. Asbury has been chosen as the sacrificial unit because it is the only coal unit that the Company owns outright.

Having too much supply is not a good thing if demand is stagnant or your customers are leaving. It is a financially questionable thing if in spite of that information you build more supply. Empire's management is banking on generating excessive revenues from its pending wind investment. To put those wind investments in the best position to succeed, there needs to be a demand for the energy. Removing Asbury makes the wind more economical and in a better position to generate more revenues, but it creates a stranded asset in Asbury because of Asbury's unpaid balance. In short, Asbury becomes uneconomical *because* of Empire's wind investments.

To be clear, no one compelled post-acquisition Empire management to invest in the 600 MW of wind that cancelled out Asbury.

Q. Could Empire have sold Asbury?

A. It could have. That would certainly offset the financial penalty. Two problems quickly emerge. First, Asbury would then be an asset that would be directly competing with the wind investments. Second, the wind farm that is set to be placed at Asbury would have incurred additional investment costs for SPP interconnection. Presently, those SPP interconnection investments should be small or nonexistent because the infrastructure is already largely in place at Asbury; however, these costs are still unknown at this time.

Q. Could Empire have operated Asbury seasonably during months of high demand; thus mitigating market exposure to its customers?

A. It could. That is exactly the plan Xcel Energy has proposed in Minnesota.[67] However, Empire's SPP wind project interconnection challenge would remain.

Q. Could Empire have mothballed Asbury and waited to see if another solution presented itself in the future?

A. Yes. In that hypothetical scenario, I would have recommended that shareholders, not ratepayers, bear the financial responsibility of that unit not running. If the market, policy, or technology changes that would necessitate Asbury running again (e.g., a Storm Uri), then ratepayers would resume that cost burden. That is, in the mothball scenario, the principles of "used" and "useful" would continue to apply.

Q. Could there have been other options?

A. I am sure there probably were. However, based on my discovery with the Company, Empire management did not even explore the options I articulated above.

Q. To be clear, are customers receiving the benefit of what they are paying for?

A. No. The investments made for Asbury are not being used or useful.

Q. Will APUC shareholders still be financially better off with your recommendations and the 600MW of Wind in place than if no wind was built and Asbury was still operational?

A. Yes. Because rate base will still be bigger than it otherwise would be and the risk inherent in the merchant generation is borne primarily by ratepayers.

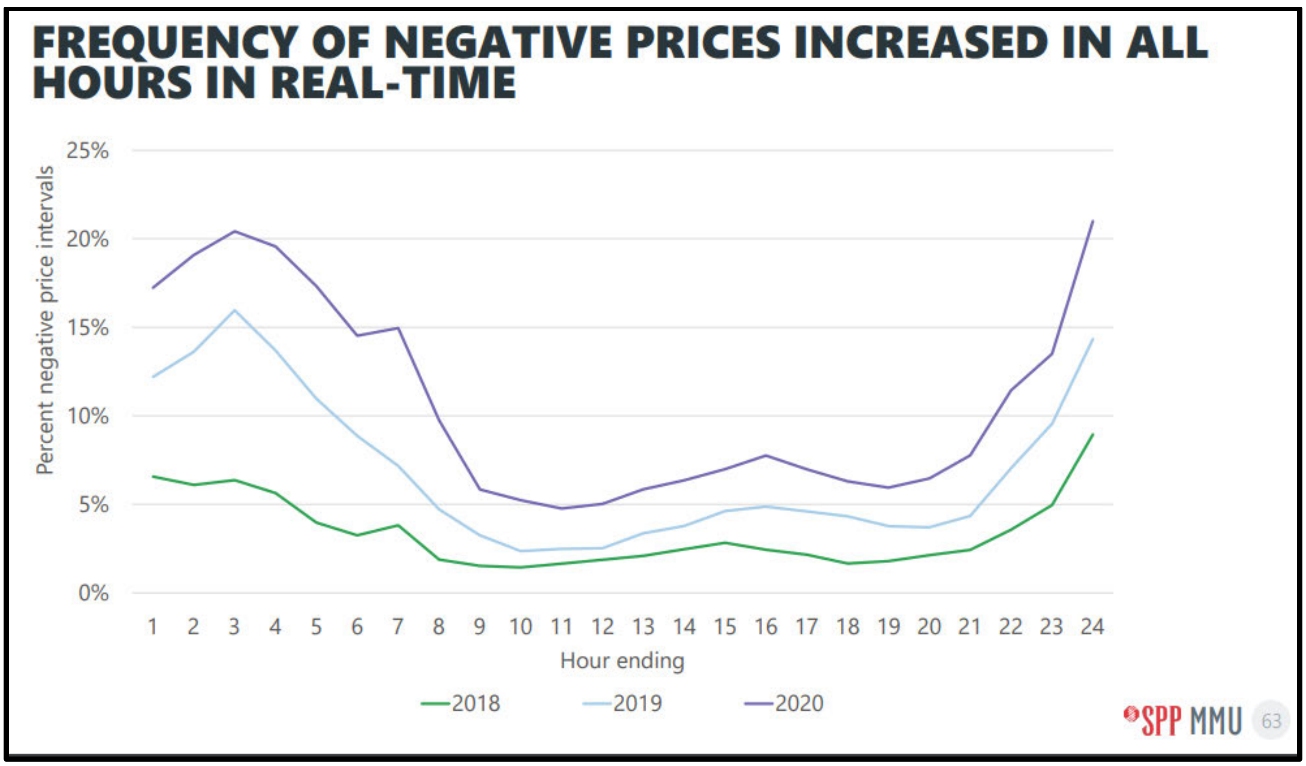
[67] Morehouse, C. (2020) Xcel Minnesota: Running coal seasonally will save customers millions, reduce emissions. *Utilitydive*. https://www.utilitydive.com/news/xcel-minnesota-running-coal-seasonally-will-save-customers-millions-reduc/569971/.

IV. CUSTOMER SAVINGS PLAN: RATEPAYER-BACKED MERCHANT GENERATION

Q. Do you still have outstanding concerns regarding the Customer Savings Plan?

A. Yes. I continue to maintain that the basis for the Customer's Savings Plan, an early 2018 model based on unrealistic assumptions that the Company refuses to update, was flawed and will harm Missourians financially for many years to come. Hundreds of pages of testimony were filed in two cases before this Commission, and already many of our concerns raised in them have been realized. To provide one illustrative example, consider the increased frequency at all hours of negative prices in the SPP year-over-year since this project was first brought before the Commission shown in Figure 10 from SPP's most recent Annual Market Monitor Report.

Figure 10: SPP Negative Prices Year-Over-Year at All Hours



Q. Has the Commission recently weighed in on the risks to ratepayers when they are asked to fund merchant generation projects?

A. Yes. The Commission publicly recognized the inherent speculative risk placed on ratepayers in its response to a PSC Staff alleged concern in Ameren Missouri's 2020 Integrated Resource Plan in Case No: EO-2021-0021. There the Commission stated:

> "However, the Commission shares Staff's concern (Concern C) that adding large amounts of renewable generation that are not required to meet MISO resource adequacy requirements or Missouri statutory or rule requirements, including providing safe and adequate service, may place an undue level of risk on ratepayers based on the speculation that market revenues will exceed the overall cost of the assets. Ameren Missouri inherently benefits its shareholders by investing in renewable energy while seeking a return on those investments through future rates. However, that same investment may shift risk to ratepayers that market revenues from the investments may not exceed the cost of the investments."[68]

Consider for a moment that this statement is being applied to a utility with approximately 1.2 million and contrast that with Empire's approximate 150K customers. Simply put, the margin of error for negative financial consequences is much greater for Empire if those early 2018 models prove inaccurate.

Q. What about the "Market Protection Plan Mechanism ("MPPM")"?

A. As presently drafted it does not provide sufficient customer protection. Nor does it make much sense in how it will actually operate. OPC witness Lena Mantle expresses OPC's concerns with the MPPM and steps the Commission could take to improve it.

Q. What are your concerns with the wind projects?

A. We still do not know the costs associated with SPP generation interconnections. The amounts of these interconnections is still unknown presently, and could significantly impact the calculations associated with these investments. Consider for a moment that Ameren Missouri

[68] Case No: EO-2021-0021. Order Regarding 2020 Integrated Resource Plan, pg 4.

had to withdraw its Certificate for Convenience and Necessity for its Brickyard Wind Farm because its generation interconnection costs exceeded the actual capital costs for that wind farm. This concern surrounding the uncertainty associated with the generation interconnection costs for the wind projects was raised by both Staff and OPC in previous filings and remain unresolved today. Empire elected to move forward with these wind projects despite not having certainty of the costs it may incur. Ratepayers should not be held liable for excess generation interconnection costs from what was originally modeled. As these costs become known I will update them as the opportunity arises in future testimony.

Q. Do you have other concerns with the economics of the wind projects?

A. Yes. I have serious concerns surrounding forced curtailments due to excessive take rates (i.e., deaths) of protected and endangered species. Empire has not secured a long-or short-term incidental take permit ("ITP") for either of its wind projects in Missouri, which operate within miles of known habitat caves for grey bats. The uncertainty surrounding potential excessive "takes" of this protected species raise considerable risk to ratepayers, if output from these wind projects must be curtailed from their designed and projected operation.

Q. Did Empire begin commercial operation of its Missouri wind projects before it secured take permits from the US Fish & Wildlife for them?

A. No. The Company secured a 10(a)(1)(A) Testing Program Permit that allows them to operate commercially; however, I am unaware of any wind farm operating under such a permit. In effect, the testing program permit places a greater level of scrutiny on the impact of wind farms on protected species than what would necessarily exist if the Company had secured an ITP. In short, we don't know much about the relationship of wind turbines and grey bats at these wind projects, but we are about to find out over the next couple of years, and that uncertainty could have a profound impact on the operations and success of those Missouri wind projects. Look no further than Ameren Missouri's High Prairie Wind Farm that is not operating 25% of the year currently to see how this could play out.

Q. What do you recommend be done to address these wildlife curtailment concerns?

I recommend that any costs associated with future curtailments or excess costs associated with "smart curtailment" should not be borne by ratepayers as the Company elected to move forward with operation of these wind farms despite full knowledge that it was operating adjacent to habitats of a protected species. Again, the concerns stemming from cost and operational uncertainty were raised by OPC and by the Missouri Department of Conservation in previous cases. It would be inappropriate for future costs and adverse impacts due to grey bats to be borne by ratepayers for projects that do not operate as intended because of poor managerial planning and implementation decisions.

This recommendation may very well have no impact on rates in this case; however, I put it forward here to give public notice that OPC may pursue future cost disallowances based on this simmering issue.

V. ADVANCED METERING INFRASTRUCTURE

Q. Do you have any concerns with Empire recovering through rates in this case its investment in AMI?

A. Yes. I am concerned that Empire is seeking recovery of its AMI investments before customers can realize benefits.

Q. What do you mean?

A. As highlighted in a recent white paper from the American Council for an Energy-Efficient Economy ("ACEEE") titled "Leveraging Advanced Metering Infrastructure To Save Energy" the value-statement for AMI is questionable at best because utilities do not choose to maximize the benefits available from AMI.[69] In 2019, regulators in Virginia rejected Dominion Energy's

[69] York, D. (2020) Smart meters gain popularity, but most utilities don't optimize their potential to save energy. ACEEE https://aceee.org/blog/2020/01/smart-meters-gain-popularity-most.

proposed smart meter rollout, and utility commissions in New Mexico, Massachusetts and Kentucky all rejected utility proposals.[70]

Q. Have similar circumstances occurred in Missouri?

A. Yes. Every Metro and Every Missouri West ratepayers are currently paying a return on and return of extremely expensive AMI hardware and related CIS software without receiving the benefits AMI enables. That is, Evergy has the ability to provide TOU rates, but no customers are utilizing it (outside of a handful of pilot participants).

Q. What do you recommend?

A. If Empire is not in a position to offer a default opt-out Time-of-Use rate because it has not timed its Customer Information System ("CIS") and billing software with its hardware investments and/or if the Company has not provided the proper level of education and outreach, then Empire should not receive a return on the AMI investment it seeks in this general rate case. Proper AMI deployment is not just replacing the physical meters with more expensive equipment. That is gold plating. To unlock the espoused benefits of AMI there also needs to be accompanying software investment in the form of interoperable CIS interface and, perhaps most importantly, a plan to educate and compel customers to change their usage habits through Time-of-Use ("TOU") rates.[71]

All three of these parts: 1.) AMI hardware; 2.) CIS interface; and 3.) Educational buy-in of TOU pricing should be happening simultaneously. Evergy Metro/Missouri West only did parts 1 & 2, and neglected part 3. As a result, customers in those service territories do not experience the appropriate benefits.

My fear is that Empire has staggered deployment of these three parts to increase its rate base without having to realize benefits to its customers. Such a scenario could play out as follows:

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[70] Walton R. (2020) Most utilities aren't getting full value from smart meters, report warns. *Utilitydive*. https://www.utilitydive.com/news/most-utilities-arent-getting-full-value-from-smart-meters-report-warns/570249/.

[71] Admittedly there are "other" potential benefits from AMI. See also: York, D. (2020) Smart meters gain popularity, but most utilities don't optimize their potential to save energy. ACEEE https://aceee.org/blog/2020/01/smart-meters-gain-popularity-most.

Empire completes part 1 (AMI hardware) in time for the test year in this rate case. Part 2 (CIS interface); however, is not completed until after the case. Part 3 is realized over the next 10 years in staggered opt-in pilot pricing programs.[72] That scenario is a slow bleed deployment that rewards the utility with profits without having to produce benefits (at least immediately) for customers.

To be clear, I am not sure AMI is a prudent investment by itself. I also cannot confidently say that even if all three parts are executed simultaneously it will prove to be a successful investment. However, I am confident that if the three parts are not executed simultaneously, customers will be overpaying for their cost of service and be made worse off. As such, shareholders should not be allowed to profit off of gold plating and no demonstrable benefits to customers.

VI. LOW-INCOME PROGRAMS

Low-Income Pilot Program ("LIPP")

Q. What is Empire's LIPP?

A. Empire's LIPP includes a total budget of $250,000 of ratepayer funded costs that provide a 100% discount of the customer charge ($13.00) for Low Income Heat Energy Assistance Program ("LIHEAP") eligible customers.

Q. How has Empire's LIPP performed to date?

A. The program has performed about as well as expected given the design and the expected goal—which is to give self-selected low-income customers a small monthly discount. Table 10 provides an annual breakdown of participants by year.

[72] I have yet to see any Missouri utility execute part 3 to date.

Table 10: Total Liberty's Low-Income Pilot Program

Year	2017	2018	2019	2020	2021[73]
# of participants	2025	3700	3052	2538	1615

Q. Why have the numbers decreased?

A. I do not know. Empire does not keep a record of the reasons for removal, for example, being disconnected for non-payment. The numbers also do not take into account double-counting (i.e., customers dropping off but then participating at a later date). In short, the participating numbers raise outstanding questions that challenge any conclusion as to the program's success.

Q. What changes did the Commission order to Empire's low-income programs in Empire's last rate case?

A. There were no changes. Empire, Staff and OPC were to meet at least twice prior to the filing of Empire's next rate case to discuss the Company's Low-Income Pilot Program and whether or not modifications are warranted.

Q. Did those two meetings occur?

A. Yes. However there was not a consensus on what modifications were necessary to increase participation in Empire's low-income programs.

Q. Did parties reach consensus on how to move forward?

A. No.

Q. What are your recommendations?

A. I recommend the Company discontinue the LIPP in favor of a payment programs akin to Ameren Missouri's Keeping Current and Keeping Cool programs.[74] I recommend that Empire shareholders contribute $500K in arrearage and cooling assistance to recognize the Company's

[73] Omits Q4 results.
[74] See GM-7 for tariff examples.

failure to fund low-income programs in the past and to be consistent with every other utility in the state. Such a long overdue commitment would at least be a step in the right direction in terms of fulfilling corporate social responsibility assertions the APUC put forward in its acquisition of Empire in Case No. EM-2016-0213. The total amount of funding would be set at $750K annually but would not result in a revenue requirement increase ($250K ratepayers and $500K shareholders).

Low-Income Weatherization Assistance Program ("LIWAP")

Q. What is Empire's current LIWAP funding amount?

A. Empire collects an annual budget of $250,000 from ratepayers with no more than $15,000 allocated to the Missouri Division of Energy for administrative oversight.

Q. Has this funding level remained the same since its inception?

A. No. The original funding level for LIWAP was set at $155K of ratepayer-backed funding in Case No. ER-2004-0570. Subsequent increases the budget occurred as follows:

- Increase to $201,300 in Case No. ER-2010-0130;
- Increase to $226,430 in Case No. ER-2011-0004; and an
- Increase to $250,000 in Case No. ER-2016-0023

Unlike every other utility in Missouri, Empire shareholders have not contributed any matching funds to date towards it LIWAP program.

Q. What is your recommendation regarding LIWAP funding?

A. I recommend that Empire shareholders contribute $500K in weatherization to recognize the Company's failure to fund LIWAP programs in the past and to be consistent with every other utility in the state. Such a long overdue commitment would at least be a step in the right direction in terms of fulfilling corporate social responsibility assertions the APUC put forward in its acquisition of Empire in Case No. EM-2016-0213. The total amount of LIWAP funding would be set at $750K annually but would not result in a revenue requirement increase ($250K ratepayers and $500K shareholders).

Furthermore, as a result of the uncertainty surrounding COVID-19, federal funding, and securing appropriate labor for completing LIWAP projects I recommend that Empire's three Community Action Agencies ("CAA's"): the Economic Security Corporation, The Ozark Area Community Action Corporation, and the West Central Missouri Community Action Agency be given further discretion in how utility funds are utilized. That is, the CAA's should be allowed to utilize the annual utility funding to incentivize and retain employees through bonuses, be able to direct funding towards marketing and be able to utilize funds on reasonable "pass-over" measures related to health and safety to ensure projects are completed.

I also recommend that the Empire Annual Low-Income meetings occur in which said CAA's can report their use of the funding.

Additional Low-Income Program Recommendations

Q. Do you have any additional recommendations as it pertains to low-income assistance programs?

A. Yes.

I recommend that Empire's Customer Service Reps ("CSRs") who receive calls from customers struggling to pay bills ask for consent from that customer to forward their contact information to the relevant Community Action Agency ("CAA") so that a representative from a CAA may contact them about weatherizing their home free of charge and other assistance if eligible.

I recommend Empire utilize an independent 3rd party consultant (up to a one-time $100K from the low-income assistance funding) to conduct a needs assessment of Empire's service territory, existing programs and recommendations moving forward utilizing primary and secondary data and make recommendations for programs moving forward (to be initiated before the close of 2022.

I also recommend that Empire conduct a three-year pilot program (up to $200K annually split evenly between ratepayers and shareholders) consistent with the framework Critical

Needs Program agreed to in the non-unanimous stipulation and agreement in the most recent Spire rate case, Case No: GR-2021-0108.

Q. What is the Critical Needs Program?

A. In Case No. GR-2021-0108, Legal Services of Eastern Missouri recommended the funding and adoption of a pilot program modeled after Baltimore Gas & Electric's ("BG&E") Critical Needs Program ("CNP"). The BG&E program recognized that there are vulnerable customers who may not have the capacity to research and apply for assistance, negotiate reasonable payment plans, or properly navigate the application process. Yet their circumstances make them particularly vulnerable to harm if they become disconnected. In response, the CNP streamlines and expedites the processes to help customers stay connected. The pilot's initial goal was to implement immediate access to existing resource assistance (bill payment, repair, consumer protections, etc.) to customers that seek assistance in nontraditional utility CSR venues (e.g., hospitals, public and private assistance agencies, shelters, etc.). The CNP is a voluntary program that trains customer "navigators," who work in nontraditional utility CSR venues. The navigators utilize a simple form under a "fast-track" protocol that provides an expedited process that should:

- Maintain or restore utility services
- Avoid negative impacts on residents with serious medical conditions
- Address build-up of utility bill arrears
- Provide a streamlined process to complementary services

Q. Is this still a pilot program for BG&E?

A. No. The program's success lead it to becoming a statutory requirement for utilities in Maryland, and the service is now largely administered by the State's Social Service Department with additional funding through Maryland's Fuel Fund program.

Q. Wouldn't those elements (Department of Social Service and an independent funding stream) be beyond the scope of the Commission's power in this case?

A. They would; however, I am not suggesting anything more than what parties in Spire's recent rate case agreed, which was to model the initial pilot program that BG&E produced, other than for Empire to partner with Spire and contribute an equivalent amount in funding this endeavor to maximize program efficiency.

Q. Do you have any additional information to share on this topic of critical needs customers?

A. I have spoken with BG&E representatives, and they have expressed a willingness to help Empire and interested stakeholders with the mechanics behind such a program. I have also included attachments GM-8A through GM-8D, which provide more detail about the Maryland program as well as sample customer consent forms (both paper and internet). I recommend program financing of up to $500K annually (split 50/50 between ratepayers/shareholders) for the three-year pilot program, with regular meetings from interested stakeholders in the low-income collaborative to see if equivalent success can be achieved for Empire's customers as the BG&E pilot produced. Given Empire's existing resources, utilizing the BG&E model framework, and partnering with Spire (and likely other utilities), I believe this could produce excellent results. Any excess annual funding can be redirected to Empire's bill assistance program.

Q. Could you summarize your low-income recommendations?

A. Yes. A summary of my recommendations is as follows:

- Discontinue Empire's LIPP program;
- Implement a Keeping Current & Keeping Cool-like bill assistance program with ratepayer funding from the discontinued LIPP program and an additional $500K in shareholder funds. Total annual funding = $750,000
- Continue funding for ratepayer funded LIWAP at $250K with an additional $500K in shareholder funds. Total annual funding = $750,000

    - CAA's should be allowed to utilize the annual utility funding to incentivize and retain employees through bonuses, be able to direct funding towards marketing and be able to utilize funds on reasonable "pass-over" measures related to health and safety to ensure projects are completed.
- Create a Critical Needs Program consist with the terms agreed and approved in Case No: GR-2021-0108. Funding split 50/50 between ratepayers and shareholders. Total annual funding = $200,000
    - Unspent funding to be allocated to Empire's bill assistance program
- Fund a one-time independent 3rd party needs assessment study that should not exceed $100,000 in funding from Empire's bill assistance program; and
- Empire's Customer Service Reps ("CSRs") who receive calls from customers struggling to pay bills ask for consent from that customer to forward their contact information to the relevant Community Action Agency ("CAA") so that a representative from a CAA may contact them about weatherizing their home free of charge and other assistance if eligible.

Q. As a result of your recommendations will there be an increase to the revenue requirement?

A. Yes. In total, there would be a $100,000 annual increase to ratepayer funded low income assistance reflected in the revenue requirement. My recommendations result in a $1.1M annual contribution from shareholders.

Q. What if the Company continues to refuse to support its community?

A. If the Company continues to fail to support reasonable social responsibility considerations related to its cost of service as it pertains to its many struggling customers the Commission should make an explicit 5 basis point downward adjustment to the Company's Return on Equity ("ROE") in recognition of the Company's failure to meet its espoused commitment to the local economy since the Company's acquisition, its inadequate response to COVID-19 arrearage management (as addressed earlier), and inability to maintain affordable rates for its customers.

VII. LATE FEES

Q. What are the purported benefits associated with late fees?

A. The two arguments supporting the continued use of late fees include: 1.) greater revenue assurance (late fees offset the revenue requirement assuming the Company is not overearning); and 2.) late fees should (theoretically) encourage timely payments.

Q. Do you support late payment fees?

A. No. I have not seen any evidence to support that late payment fees are an appropriate deterrent to non-payment, and I believe that any additional fee added to an already financially struggling customer will increase the likelihood of disconnection. I believe the threat of disconnection is the primary deterrent to incentivize timely payments, and that Empire should be doing everything in its power to provide an affordable service, which should include minimizing punitive charges that make it more likely for already struggling customers to fall off.

Q. Have any regulators ordered the elimination of late fees?

A. Yes. The Kentucky Public Service Commission recently ruled against their continued use in Case No: 2020-00141.36 I am also aware that many state commissions ordered suspending late fees throughout the COVID-19 pandemic.[75]

Q. What is Empire's late payment fee?

A. 0.5% is added onto a customer's bill, if their bill is unpaid at the delinquent date.

Q. Do you have any recommendations to modify this amount?

A. I recommend that Empire's late fees be lowered to match the short term debt recommendations made by OPC witness David Murray, which is 0.25% annually. Such an amount would more accurately reflect the cost of service, minimize the punitive pressure on struggling customers and still incentivize timely payments by having the "threat" of late payment.

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[75] See GM-9

VIII. Data Privacy and Green Button

Q. What is your recommendation in regard to data disclosure?

A. Individual personal consumer information such as name, address, account number and energy usage, particularly customer-specific energy usage obtained through "smart meters," must be protected from unauthorized disclosure. The highest-possible privacy setting of such information should be the default. Consumers should not have to take action in order to protect their privacy.

As such, Empire must not disclose customer information, particularly customer-identified energy usage data, to any third party or affiliate without the specific affirmative consent of the consumer after receipt of complete information relevant to the disclosure and the intended uses of the information. Empire and any third party or affiliate should be required to limit the use of such information for the specific purposes the customer authorized. OPC recommends that the Commission order Empire to adopt the Green Button software tool to enable consumers to easily access and securely download their own household smart meter data (*Download My Data*). The Green Button also securely allows consumers the ability to share their smart meter data (*Connect My Data*) with select third parties delivering new services such as smart thermostats, remote home control systems or rooftop solar. Based on OPC's understanding of the Green Button platform, the software should also minimize the potential for affiliate transaction violations.

The Green Button platform has been endorsed by Edison Electric Institute ("EEI") the US Department of Energy ("DOE"), NIST, and is currently being utilized by utilities that have operational AMI in place such as Exelon, PG&E, SDG&E, Evergy, and Southern California Edison.

Q. What is your recommendation regarding data modeling standards?

A. Release of aggregate information should be confined to limited public agencies (e.g., Staff and OPC) or academic institutions.

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For residential usage, Empire should utilize the "15/15 Rule" as the privacy standard required for release of aggregated data. This privacy standard requires that aggregated data include a minimum of 15 customers with no customer's load exceeding 15 percent of the data set's energy consumption. For non-residential usage, Empire should utilize the "4/80 Rule" in which aggregated data need to comprise a minimum of four non-residential customers (within an applicable customer class) and no single customer's load exceeding 80 percent of the data set's energy consumption.

OPC further recommends that data only be retained for no longer than three years.

Q. What is your recommendation cybersecurity assessments and privacy disclosure?

A. I recommend an annual submission of a Cybersecurity Plan ("CSP") and privacy impact assessments ("PIA") Within six months of rates of going into effect, Empire should be required to hold a meeting with members of the Staff and OPC to solicit feedback and discuss the details necessary to submit a comprehensive annual CSP to the Commission that includes, at a minimum, explicit privacy policies and standards, data breach notification plans, and the results of periodic privacy impact assessments ("PIA's") on the Company's assets and operations in tandem with agreements between third-party contractors and sub-contractors.

Moreover, the utilities should utilize an impartial third-party consultant to conduct and review the PIAs with the summary of the end results made available to the Commission, Staff and OPC. This will help to promote transparency and appropriate compliance. OPC recommends that the Commission order Empire to update its privacy policy on its website outlining the aforementioned standards and safeguards in place in an easily accessible FAQ format akin to Evergy's website.[76] Staff and OPC should be notified 60 days before any changes are made to its privacy policies and the general public should be notified at least 30 days before any changes are made to its privacy policies.

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[76] Evergy: Privacy Policy. https://www.evergy.com/privacy-policy

Q. **Do you have any additional comments regarding consumer data privacy protections?**

A. Yes. Strong consumer data privacy protections are essential to maintaining the trust of ratepayers. The consequences of a data breach not only affect the customers whose data may fall into the wrong hands, but may also be costly to smart grid entities and utility shareholders. These entities may incur costs to restore the data, to provide compensation such as free credit monitoring for affected customers, to pay any court-awarded damages, and to repair a diminished reputation and loss of corporate good will. Customers (individuals, groups, companies or institutions) should determine for themselves when, how, and to what extent information about them is communicated to others. OPC's recommendations represent a reasonable path forward as the Commission navigates the potential inherent threats that accompany a more connected and interdependent smart grid. OPC reserves the right to amend these recommendations in subsequent testimony based on Company responses to on-going discovery. It is not clear, presently, whether or not specific tariff changes would need to be applied to ensure the safeguard compliances referenced above.

The aforementioned recommendations are reasonable and prudent actions to take in the intermediate time before the Commission's rules in Docket No. AW-2018-0385 are moved to a rulemaking docket and later codified.

Q. Does this conclude your testimony?

A. Yes.