

**BEFORE THE  
KANSAS CITY BOARD OF PUBLIC UTILITIES**

**Prepared Direct Testimony of**

**Andrew Ferris**

**Issue:**

**Demand Forecast**

**March 2023**

**Q: What is your name?**

A: Andrew Ferris

**Q: What is your position at the BPU?**

A: I am the Director of Financial Planning.

**Q: Please summarize your professional qualifications and experience.**

A: I have a Bachelor's degree in Finance from Truman State University and a Master's in Business Administration from Webster University. I have worked in Finance, Credit Risk, Audit, and Planning for 25 years with 10 of those years being with the Kansas City Board of Public Utilities.

**Q: What are your responsibilities as Director of Financial Planning?**

A: My responsibilities include forecasting fuel, purchase power, customer demand, electric purchases and sales, as well as the Energy Rate Component (ERC) calculations. I also manage long term capacity planning through the management of sales/purchase contracts including renewable contracts and the implementation of demand response initiatives to meet customer requirements and to satisfy the utility's capacity planning margin.

**Q: What are your responsibilities relating to the current Electric & Water Rate Hearing?**

A: My responsibilities are to participate as a team member and subject matter expert in the areas of load forecast, power supply costs, and the ERC in the Cost of Service and Revenue Requirement Studies and to provide information for the Rate Hearing

process.

**Q What is the purpose of your testimony?**

A. I sponsor testimony on the design and calculation of the demand forecast.

**Q: What methodology is used when determining the demand forecast?**

A: The Board of Public Utilities forecasting method is a bottom-up approach developed by aggregating customer class specific forecasts. Developing customer class specific forecasts allows for the ability to get a refined estimate of total system demand. The estimates for the individual customer classes are aggregated to develop the estimate for the entire system as a whole.

**Q: Outside of historical demand data what tools are used to aid in the development of the forecast?**

A: The BPU also utilizes individual and specific customer data, new and exiting customer data, regional and national trends associated with customer behavior, as well as a normalization process that utilizes Heating Degree Days (HDD) and Cooling Degree Days (CDD) to help normalize weather effects.

**Q: Does the weather forecast reflect the potential for more frequent extreme events due to climate change?**

A: No. The demand forecast does not attempt to predict severe weather events or cycles but instead attempts to normalize historical weather so as to provide a demand forecast based on the average or typical weather conditions as supplied by the National Weather Service.

**Q: Does the weather forecast impact each customer class in the same manner?**

A: No. Not all rate classes are impacted to the same degree. The residential customer class is the most vulnerable to the variations in the weather pattern. That is because heating and cooling costs account for a significant portion of the overall energy consumption for that rate class.

**Q: Why does each customer class differ in projected growth rates?**

A: As previously mentioned the BPU forecasts each customer class independently for each year using customer class specific data. Each rate class varies due to the number of customers, known customer changes, changes in customer behavior, technology changes, and weather adjustments.

**Q: Are the BPU's growth rate projections typical of the historical norm?**

A: It depends on the time frame and the customer class. Each class has experienced varying degrees of growth over time. Those classes with fewer customers tend to see larger variances as singular customers have greater impacts on the overall class.

Over the last several years there has been a great deal of volatility in consumption as the various customer classes were impacted differently by the impacts of Covid and the social and economic impacts of decisions surrounding that. In 2022 there was a rebound across a majority of customer classes. As a whole it is expected that modest load growth will continue for the next few years but that growth is likely different for each of the rate classes. Energy efficiency products, distributed energy resources, electrification rates, and a changing economy will each impact growth rates across the various rate classes.

**Q: What role does the load forecast play in a Cost of Service study?**

A: A cost of service study is an attempt at gathering all revenue and expenses and allocating those across classes. The load forecast is an important instrument within that process as it attempts to project peak demand as well as actual energy consumption by the various rate classes. BPU like all other utilities is required to maintain a certain level of capacity and that capacity requirement is a function of the actual peak demand on the system. This is a requirement of SPP, the Regional Transmission Operator.

The load forecast also attempts to determine the expected energy consumption across rate classes. As mentioned previously, a myriad of inputs go into forecasting energy consumption over time. Energy consumption and the rate of expected change within the consumption model definitely impacts the overall requirements of the cost of service study. The more efficient the generation and transmission system can operate the lower the overall cost structure of the utility. As customer consumption changes occur the utilities generation and transmission resources change as well, however the bulk of a utilities assets are long-term in nature and as such require gradual changes over time.

Each major class has undergone varying changes over time with those changes being due to a number of reasons. Industrial customers' consumption numbers have collectively declined 28.0% since 2010, while at the same time seeing growth of 15% over the past twelve months. Commercial customers' consumption numbers have fared completely differently with a growth of 11% since 2010. Residential numbers have been much steadier over that same period and have only increased by less than

1% since 2010.

As mentioned previously there are a number of factors that may affect each customer class with each of those causes having varying impacts on the various classes.

Planning's role is to attempt to analyze the long-term trends so as to better match the utilities resources with the needs of our customers.

**Q: Do you find the load figures to be reasonable?**

A: In my opinion they are likely reasonable. As with any forecast the further out you look the more likely those forecasts are to vary from current expectations. The electric industry is currently undergoing massive changes from Distributed Energy Resources (DERs) to Smarter Homes to Electric Vehicles. Each of these are disruptive technologies that are advancing rapidly in many cases. The rate of adoption of any or all of these may greatly impact future energy consumption models.

**Q: Does this conclude your prepared direct testimony in this matter?**

A: Yes. It does.