

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY UTILITIES)	
COMPANY FOR AN ADJUSTMENT OF ITS)	CASE NO.
ELECTRIC RATES AND FOR CERTIFICATES)	2016-00370
OF PUBLIC CONVENIENCE AND NECESSITY)	

RESPONSE OF
KENTUCKY UTILITIES COMPANY
TO
COMMISSION STAFF'S FIFTH REQUEST FOR INFORMATION
DATED APRIL 21, 2017

FILED: APRIL 28, 2017

VERIFICATION

STATE OF NORTH CAROLINA)
) SS:
COUNTY OF TRANSYLVANIA)

The undersigned, **William Steven Seelye**, being duly sworn, deposes and states that he is a Principal of The Prime Group, LLC, that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.



William Steven Seelye

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 26 day of April 2017.



Notary Public (SEAL)

My Commission Expires:

1-1-17 2018

BENJAMIN D. UPTON II
NOTARY PUBLIC
Transylvania County, NC

KENTUCKY UTILITIES COMPANY

CASE NO. 2016-00370

Response to Commission Staff's Fifth Request for Information

Dated April 21, 2017

Question No. 1

Responding Witness: David S. Sinclair / William Steven Seelye

- Q-1. Refer to the Supplemental Testimony of Stephen J. Baron filed on behalf of Kentucky Industrial Utility Customers, Inc., pages 4-8, wherein Mr. Baron discusses his contention that the hourly load projection methodology used for the revised cost-of service studies filed by KU/LG&E continue to produce unreliable results. State whether Mr. Baron is correct in his contention. If not, explain. If so, provide revised, corrected cost-of-service studies.
- A-1. No, Mr. Baron is not correct in his contention. Contrary to his claims, the Companies' methodology for developing class load profiles is well-developed and reliable. Inputs to this process include a robust forecast of monthly class sales and hourly system demands. The methodologies used to produce these forecasts were described in several responses to data requests (e.g., see KU AG 1-274 and LG&E 1-291). None of the other parties have contested the forecasting methodologies used by the Companies.

The Companies' methodology for developing class load profiles ensures that the sum of class loads by hour tie to the hourly system demand forecast and that the sum of class loads by month tie to the monthly class sales forecasts. In addition, by aligning the Historical and Forecasted Test Periods based on daily energy rank, the methodology ensures that the class loads for the higher energy days in the Forecasted Test Period are developed based on the class loads in the higher energy days of the Historical Period. Because the more weather-sensitive classes will typically have a greater share of total load on higher energy days, this approach ensures that each class's forecasted contribution to hourly demands are reasonable throughout the month. This is a reasonable methodology for developing class load profiles.

To cast doubt on the reasonableness of the Companies' methodology, Mr. Baron points to forecasted demands for the month of November, stating as follows:

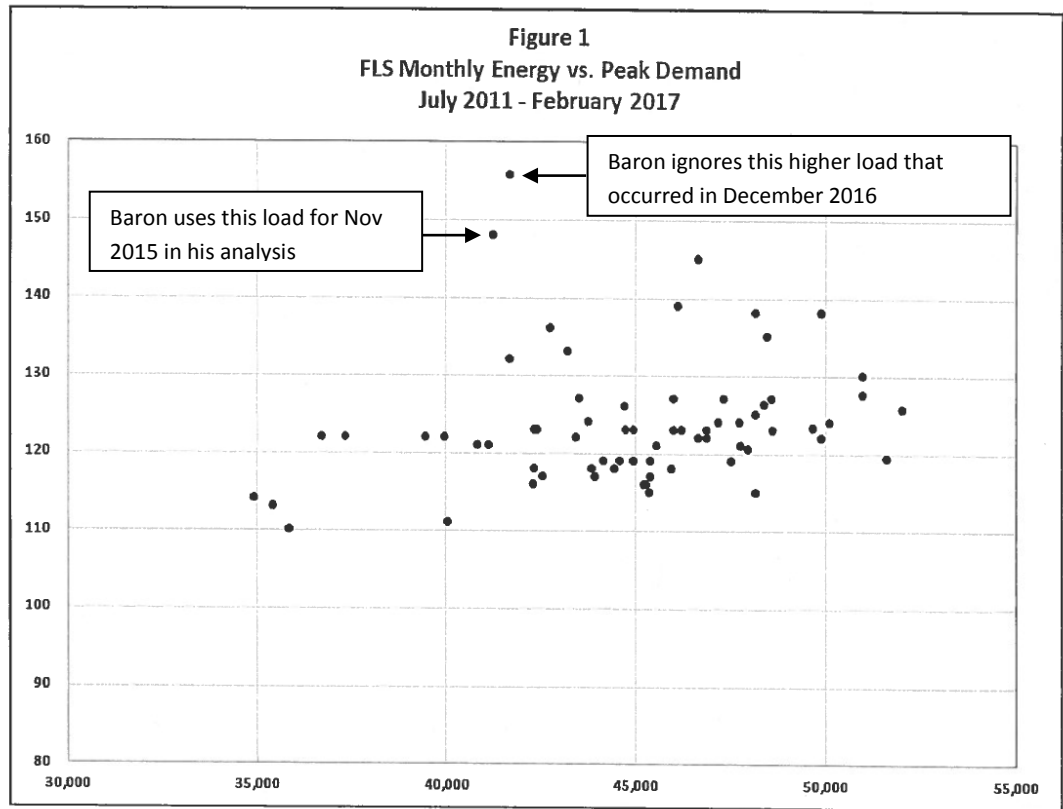
For example, in KU's original FLS forecast, the Company projected a maximum kW demand for FLS of 196,844 kW in the future test year, compared to a maximum kW demand of 147,700 kW during historic, actual period. In its revised/corrected analysis, KU is now

projecting a maximum demand of 164,000 kW, which is still 11% greater than the maximum demand during the historic period. [Baron Supplemental Testimony at p. 8, lines 9-11.]

Oddly, Mr. Baron picks the month of November 2015, a *shoulder month that has no bearing whatsoever on his 5-CP methodology used in the KIUC's cost of service study*, or on the modified BIP methodology or the LOLP methodologies used in the Company's cost of service studies. Even though loads for November are inconsequential to the Companies' cost of service studies, Mr. Baron's criticism of the NAS's load profile ignores the higher peak demand of 156 MW that was established by NAS in December 2016.

In his Supplemental Testimony, Mr. Baron argues that the peak demand for NAS's FLS load profile (164 MW in November 2017) is unreasonable by comparing it to the class's peak demand from the Historical Period (148 MW in November 2015). Yet he ignores the peak demand that was subsequently established in December 2016 (156 MW). Furthermore, Mr. Baron ignores the fact that NAS has consistently added load over the past several years. This is demonstrated by the increase in NAS's demand from 148 MW in November 2015 to 156 MW in December 2016.

Mr. Baron selects November 2015 for his example even though NAS's higher peak demand during December 2016 was included in the data set that he graphs in Figure 1 of his supplemental testimony, as shown below:



* Figure 1 from Mr. Baron's supplemental testimony with text boxes added

GRAPH 1

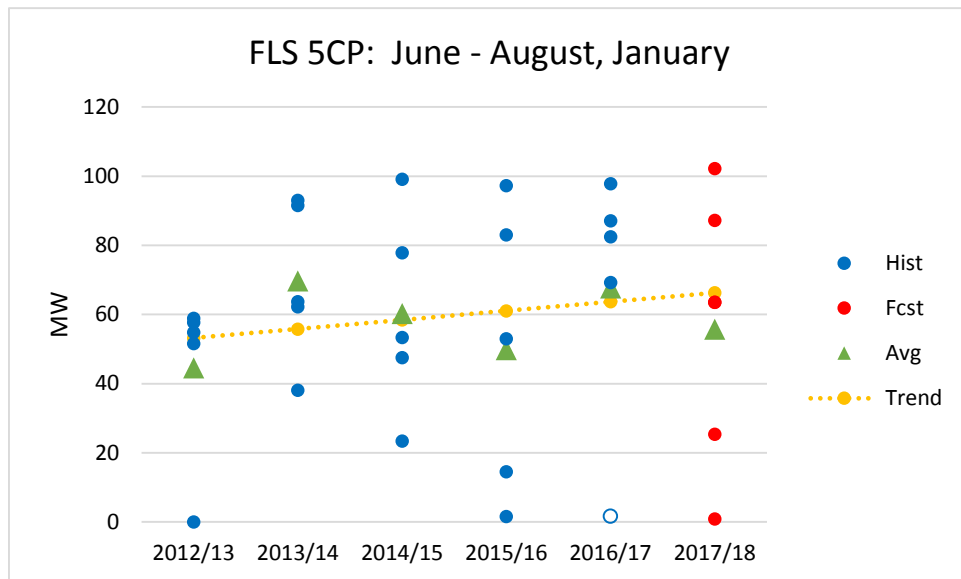
Mr. Baron fails to acknowledge that the Companies' forecasted peak demand for NAS is only 8 MW higher than the peak demand from December 2016. Furthermore, the increase projected by the Companies can be fully explained by the upward trend in NAS's historical FLS loads and in known increases in NAS's demand.

To improve the accuracy of the industrial forecasts as well as the Companies' ability to serve its largest customers, the industrial sales forecasts incorporate direct feedback from the Companies' largest customers, including NAS. Based on this feedback, NAS is expected to complete a 13 MVA addition to its operations in March 2017. This addition will primarily impact NAS's RTS load but is also expected to impact its FLS load. As NAS's total energy consumption has increased over the years, its FLS peak demands have also increased (see Table 1 below). Considering NAS's expansion plans, it is reasonable to expect NAS's FLS demands to continue increasing.

Year	NAS's Annual FLS Peak Demand (MW)
2012	132
2013	139
2014	145
2015	148
2016	156
2017 Forecast	164

TABLE 1

Mr. Baron proposes a cost of service study using a five coincident peak ("5CP") methodology. This methodology focuses on class demands that are coincident with the Companies' monthly peak demands in June, July, August, September, and January. Like the annual FLS peak demand, the 5CP demands for the FLS class are also reasonable. The figure below plots the FLS 5CP demands for the past five years and for the Forecasted Test Period. The average of the 5CP demands, which ultimately drives the results of the 5CP cost of service study, is also plotted. Over the past five years, the top of the 5CP range has generally increased. This trend is expected to continue in the Forecasted Test Period due to NAS's planned expansion. In 2016/17, the June 2017 coincident peak is assumed to equal the coincident peak from June 2016 (2 MW). With this assumption, the 5CP demands in 2016/17 range from 2 MW to 98 MW and averaged 68 MW. In the Forecasted Test Period the 5CP demands range from 1 MW to 102 MW and average 56 MW. The low end of this range is consistent with the low end of the range in 2012/13 and 2015/16. Particularly considering NAS's expansion plans, the 5CP demands in the Forecasted Test Period are reasonable. See Graph 2 below:



*Consistent with the Historical and Forecasted Test Periods, each year includes the 5CP demands for the 12 months ending in June. For example, the 5CP demands for 2015/16 were taken from July 2015, August 2015, September 2015, January 2016, and June 2016.

**The FLS CP for June 2017 is assumed to equal the FLS CP for June 2016 (2 MW).

GRAPH 2

In his Direct Testimony, in Mr. Baron's effort to demonstrate that the load profiles originally filed by the Companies were unreasonable, he points out that the changes from the Historical Period to the Forecasted Test Period in monthly peak demands are not consistent with the changes in monthly sales. (Baron direct testimony at page 17.) He further states that "there is simply no evidence that the NAS load shape will change." (*Id.* at page 18). Based on these arguments, Mr. Baron is claiming that the FLS load factors in the Forecasted Test Period should be unchanged from the Historical Period. In the Companies' updated class load profiles, the FLS load factors are unchanged from the Historical Period. Despite this fact and contrary to his claims in his Direct Testimony, Mr. Baron now argues in his Supplemental Testimony that this should not be the case. (Baron Supplemental Testimony at page 6, lines 3-9.) The reason for the change in Mr. Baron's position is unclear. Regardless, although the load profiles originally filed by the Companies were indeed incorrect due to the ordering errors identified by Mr. Baron, the updated profiles are entirely reasonable.

See also the response to PSC 2-97.