COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN EXAMINATION BY THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF KENTUCKY UTILITIES COMPANY FOR THE TWO-YEAR BILLING PERIOD FROM NOVEMBER 1, 2012 THROUGH OCTOBER 31, 2014	))))))	CASE NO. 2014-00452
AN EXAMINATION BY THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF KENTUCKY UTILITIES COMPANY FROM NOVEMBER 1, 2013 THROUGH APRIL 30, 2014	)))))	CASE NO. 2014-00227

RESPONSE OF
KENTUCKY UTILITIES COMPANY
TO COMMISSION STAFF'S POST HEARING
REQUEST FOR INFORMATION

HEARING DATE APRIL 7, 2015

FILED: April 21, 2015

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Robert M. Conroy,** being duly sworn, deposes and says that he is Director - Rates for LG&E and KU Services Company, and 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.

Robert M. Conroy

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 21st day of April 2015.

(SEAL)

Notary Public

My Commission Expires:

August 31, 2015

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Mike Dotson,** being duly sworn, deposes and says that he is Manager – LG&E and KU Fuels for LG&E and KU Services Company, and 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.

Mike Dotson

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 21st day of April 2015.

Rhonda J. Andrews (SEAL)

Notary Public

My Commission Expires:

August 31, 2015

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Eileen L. Saunders,** being duly sworn, deposes and says that she is Director, Generation Services for LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.

Eileen L. Saunders

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 21st day of April 2015.

(SEAL)

Notary Public

My Commission Expires:

August 31, 2015

KENTUCKY UTILIITES COMPANY

Response to Commission Staff's Post Hearing Request for Information
Hearing Date April 7, 2015

Case Nos. 2014-00452 and 2014-00227

Question No. 1

Witness: Robert M. Conroy

Q-1. In KU's response to the February 5, 2015 Request for Information, Item 13 states that "total ownership cost, which includes the cost of no-load, load and auxiliary losses, is incorporated into the selection of distribution and substation transformers." What are auxiliary losses?

A-1. Transformers are long-life assets and prudent financial evaluation considers the total ownership cost (TOC) over the economic life of the transformer. The TOC calculation is based on an Institute of Electrical and Electronics Engineers (IEEE) standard and most utilities use some form of this methodology to compare transformer cost between different suppliers. The evaluation includes not only the initial installed cost of the transformer, but also considers the net present value of no-load, load and auxiliary losses over the life of the asset.

No-Load Losses – the amount of real energy associated with magnetizing the core of a transformer. This value is constant, regardless of the amount of load on the transformer. The quality of the core materials in the transformer and the transformer's design have a direct impact on the amount of no-load losses over the life of the asset.

Load Losses – the amount of real energy used by the transformer associated with serving load, including winding losses and eddy current losses in the primary and secondary conductors of the transformer. These losses vary with the amount of load on the transformer. The quality of the transformer materials and the transformer's design have a direct impact on the amount of load losses over the life of the asset.

Auxiliary Losses – large substation transformers often require the addition of cooling systems including fans, oil pumps, etc. The energy used by these cooling systems are the transformer's auxiliary losses.

KENTUCKY UTILIITES COMPANY

Response to Commission Staff's Post Hearing Request for Information
Hearing Date April 7, 2015

Case Nos. 2014-00452 and 2014-00227

Question No. 2

Witness: Mike Dotson

Q-2. For KU's response to the February 5, 2015 Request for Information, Item 20, please provide a breakdown of coal deliveries by rail and by truck for Brown Station in total for the period under review.

A-2.

Tons received	Rail	Truck	Total
11/1/12 – 10/31/14	2,483,007	201,694	2,684,701
Percentage	92%	8%	

KENTUCKY UTILIITES COMPANY

Response to Commission Staff's Post Hearing Request for Information
Hearing Date April 7, 2015

Case Nos. 2014-00452 and 2014-00227

Question No. 3

Witness: Eileen Saunders

Q-3. For KU's response to the February 5, 2015 Request for Information, Item 14, were Haefling Units 1 and 2 operated during the last six months of the review period and what is their current status today?

A-3. Yes. Haefling Units 1 and 2 operated during the last six months of the review period. The current status of the units as of April 9, 2015 is "Reserve," meaning that the units are available for operation if needed.

KENTUCKY UTILIITES COMPANY

Response to Commission Staff's Post Hearing Request for Information
Hearing Date April 7, 2015

Case Nos. 2014-00452 and 2014-00227

Question No. 4

Witness: Eileen Saunders

Q-4. Regarding Trimble County Unit 2 outages following a significant overhaul, Mrs. Saunders testified that Trimble County Unit 2 is a "supercritical" unit. Please describe what is meant by the terms "supercritical" unit and "subcritical" unit.

A-4. The main difference between a supercritical and subcritical boiler is the ability of the supercritical boiler to operate at higher pressures, specifically higher than the critical pressure of steam. Operating at a higher pressure allows for better thermal efficiency of the supercritical unit. The higher thermal efficiency reduces the fuel cost by reducing the amount of coal burned for the electricity produced, providing a benefit for the customers. There is also a significant environmental benefit from this higher efficiency since less fuel is combusted to produce the same electrical energy, therefore, less pollutants are emitted for the same mega-watt of electricity produced.