

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For )  
A General Adjustment Of Its Rates For Electric )  
Service; (2) An Order Approving Its 2014 )  
Environmental Compliance Plan; (3) An Order )  
Approving Its Tariffs And Riders; And (4) An )  
Order Granting All Other Required Approvals )  
And Relief**

**Case No. 2014-00396**

**TESTIMONY OF**  
**RONALD L. WILLHITE**  
**SCHOOL ENERGY MANAGER PROJECT DIRECTOR**  
**KENTUCKY SCHOOL BOARDS ASSOCIATION**

**FILED: March 23, 2015**

1 INTRODUCTION  
2

3 **Q. Please state your name and business address.**

4 A. My name is Ronald L. Willhite and business address is 260 Democrat Drive, Frankfort,  
5 KY 40601.

6 **Q. By who are you employed?**

7 A. I am employed by the Kentucky School Boards Association as Director of the School  
8 Energy Managers Project. The Kentucky School Boards Association (KSBA) is a  
9 nonprofit corporation of school boards from each public school district in Kentucky. The  
10 association, founded in 1936, now has over 75 years of serving school board members  
11 and school districts in such areas as governmental relations, board member and team  
12 development, risk management, facility planning, energy management, legal services,  
13 policy services, publications and community relations. It is governed by a 27-member  
14 board of directors made up of representatives elected as regional chairpersons or as  
15 directors-at-large. With nearly 900 school board members, KSBA is the largest  
16 organization of elected officials in Kentucky.  
17

18 **Q. Please describe your regulatory and public school experience.**

19  
20 A. In December 2001 I retired from LG&E Energy Services. During my tenure at the  
21 Companies I testified before this and other commissions on numerous rate and regulatory  
22 matters. In March 2010 I was employed by KSBA to develop and direct the School  
23 Energy Managers Project (SEMP). From 1989 to 1998 I served on the Scott County  
24 Board of Education, the last six years as its chairman, and since 2009 have served on  
25 their Energy Committee. I graduated from the University of Kentucky in 1969 earning a  
26 B.S. in Electrical Engineering.  
27

28 **Q. Please describe Kentucky's public schools and the role of boards of education.**

29  
30 A. Kentucky has some 1233 P-12 public schools serving 675,000 students that are overseen  
31 per statute by 173 local school boards pursuant to KRS 160.290:

32 *“Each board of education shall have general control and management*  
33 *of the public schools in its district and may establish schools and provide*  
34 *for courses and other services as it deems necessary for the promotion of*  
35 *education and the general health and welfare of pupils, consistent with*  
36 *the administrative regulations of the Kentucky Board of Education.*  
37 *Each board shall have control and management of all school funds and*  
38 *all public school property of its district and may use its funds and*  
39 *property to promote public education. Each board shall exercise*  
40 *generally all powers prescribed by law in the administration of its public*  
41 *school system, appoint the superintendent of schools, and fix the*  
42 *compensation of employees.”*

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**Q. What specific issues are you addressing?**

A. I will address the following; 1) impact of the proposed increase on public schools, 2) public school energy management initiatives, 3) service to schools on Rate LGS.

**Q. How will the requested increase impact schools?**

A. Kentucky’s public schools continue to be severely impacted by today’s economic conditions. After personnel, energy is the second highest cost for schools. Unlike businesses that can increase sales or prices to offset cost increases, public schools must either cut programs or attempt to raise taxes. Public schools cannot refuse service to a student or limit their enrollment.

The Company has advertised an average overall increase as 12.5 percent. While schools understand the Company is faced with significant challenges the revenue increase as proposed would be extremely challenging to schools and their students. I will address options for the Commission to mitigate the impact on public schools.

**Public School District Energy Management Initiatives**

**Q. What are schools doing to manage energy costs?**

A. The General Assembly and Governor have directed and encouraged public schools to focus on making intelligent energy choices.

*“In an effort to reduce rising energy costs that are straining school budgets”* the General Assembly in 2008 passed House Bill 2, which became law on July 15, 2008 as KRS 160.325. Pursuant to KRS 160.325 boards of education began reporting annually through the Kentucky Pollution Prevention Center (“KPPC”) to the Department for Energy Development and Independence (“DEDI”) and the Legislative Research Commission (“LRC”) on the status of the development of energy management plans by those boards of education and the anticipated savings to be obtained from those plans. Boards now report through KSBA to the LRC and DEDI.

On July 15, 2010 KRS 157.455 became law stating that the Kentucky Department of Education and all school districts undertaking the construction of new school buildings or the major renovation of existing school buildings are strongly encouraged to:

- (a) Meet or exceed efficient school design standards in planning and designing all new buildings and major renovation projects;
- (b) Use life-cycle cost analysis to evaluate different design proposals; and

- 1 (c) Consider the possibility that each new school building or major renovation of a  
2 building could be a net zero building, either during the construction or renovation, or  
3 at a later date as resources become available.  
4

5 The statute further requires the Department of Education to develop and adopt guidelines for  
6 efficient school design, net zero buildings, and life-cycle cost analysis, including the  
7 identification of appropriate computer-based simulation programs for use in undertaking life-  
8 cycle cost analysis. The Departments of Education and Energy Development and  
9 Independence are required to assist school districts in:

- 10  
11 (a) Developing methods for measuring ongoing operating savings resulting from the use  
12 of efficient school design;  
13  
14 (b) Identifying sources for training for school staff and students to ensure that efficient  
15 school design features and components are fully utilized; and  
16  
17 (c) Identifying ways that efficient school design and its energy-saving components can  
18 be integrated into the school curriculum.  
19

20 Finally, the statute requires the Departments of Education and Energy Development and  
21 Independence to report annually to the Legislative Research Commission and the Governor  
22 the following for new school buildings or building renovations:  
23

- 24 (a) An assessment of the implementation of efficient school design within Kentucky's  
25 education system;  
26  
27 (b) Documented energy savings from any buildings built using efficient school design or  
28 net zero school buildings in operation;  
29  
30 (c) A list of the new or renovated school buildings completed or identified for future  
31 construction during the prior year using efficient school design, including the name of  
32 the school district, name of the school, total project cost, additional cost or savings, if  
33 any, associated with efficient school design features, and efficient school design  
34 features included in the project;  
35  
36 (d) A list of all school buildings that operate as a net zero building, and school buildings  
37 which school districts plan to convert to net zero. The list shall include the name of  
38 the school district, the name of the school, the total cost associated with the school  
39 building becoming a net zero building, and the components that will be installed to  
40 make the building a net zero building;  
41  
42 (e) Any recommendations relating to efficient school design; and  
43  
44 (f) A list of new school buildings completed during the prior year without using efficient  
45 school design and an explanation of why efficient school design was not used.  
46

47 **Q. Please describe the School Energy Managers Project (SEMP).**  
48

1 A. In support of the state’s energy plan to increase energy efficiency, Governor Beshear  
2 authorized \$5.1 million in Recovery Act funds from the U.S. Department of Energy to  
3 create the School Energy Managers Project (“SEMP”). The Kentucky School Boards  
4 Association (“KSBA”) was chosen to develop and administer SEMP. The Project was  
5 initiated in March 2010 and coordinated the development of a state-wide energy  
6 management infrastructure that has focused public school districts on fostering intelligent  
7 energy choices in new and existing buildings through implementation of energy  
8 efficiency projects. SEMP initially provided matching funds and training for districts to  
9 employ energy managers to assemble information, access technical resources and  
10 formulate and implement energy management plans. As a result of SEMP 35 energy  
11 managers were employed to go along with 14 then existing energy managers to serve 144  
12 of the then 174 public school districts. This effort has resulted in both significant  
13 emission reductions and monetary savings to enhance the educational opportunities for  
14 the Commonwealth’s public school students. SEMP terminated briefly in June 2012, but  
15 was reestablished in December 2012 when funding became available from DEDI. Since  
16 that time additional funding from the Kentucky Energy and Environment Cabinet  
17 (“Cabinet”) and the Louisville Gas and Electric, Kentucky Utilities and Kentucky Power  
18 Companies is supporting SEMP. Part of the funding is distributed on a matching salary  
19 basis for districts to employ an energy manager. KSBA-SEMP staff assists  
20 districts/partnerships in the employment, coaching, monitoring and evaluation of energy  
21 managers; coordinates professional development opportunities for energy managers;  
22 provides analytical and technical support; utilizes its outreach capacities to timely  
23 communicate success stories to board members, superintendents, governmental officials  
24 and the general public; fosters best practice implementation; and monitors and  
25 coordinates utility activities and relations. Funding from the utilities is used for energy  
26 managers serving only schools receiving service from the particular utility. Cabinet  
27 funding is used to support all 173 district’s energy management activities.

28  
29 **Q. What actions have been taken by boards of education?**

30  
31 A. All 173 public school boards of education have adopted and implemented an Energy  
32 Management Policy. Most district policies are as follows:

33 **Energy Management**

34 *It is the intent of the Board that the District use energy resources in a safe*  
35 *and efficient manner with an on-going focus on identifying and*  
36 *implementing cost saving measures and developing staff and student*  
37 *commitment to identified energy management practices.*

38 *To promote this effort, the Superintendent/designee shall direct the*  
39 *development of an energy management plan (EMP) for Board approval and*  
40 *oversee the implementation and maintenance of that plan, which shall*  
41 *address the following components:*

42 *1. A District level committee shall be appointed by the*  
43 *Superintendent/designee to develop and implement the energy management*  
44 *plan (EMP).*

1           2. *The District level committee shall track and monitor the EMP to*  
2           *determine progress toward managing and reducing energy costs.*

3           3. *Effective with the 2011-2012 school year, the Superintendent/designee*  
4           *shall report the EMP results for each fiscal year, including annual District*  
5           *energy usage, costs and anticipated savings to KPPC - the Kentucky*  
6           *Pollution Prevention Center – by October 1<sup>st</sup> annually through the Kentucky*  
7           *Energy Efficiency Program for Schools (KEEPS).*

8           *A status report on implementation of the plan in Board-owned and Board-*  
9           *operated facilities shall be provided to the Board following the end of each*  
10          *fiscal year*

11  
12 **Q. Please explain activities undertaken by the school energy managers.**

13  
14 A. Most districts have established an energy committee and have developed and  
15 implemented an energy management plan under the leadership and assistance by their  
16 energy manager. Recognizing that students are the future home and community energy  
17 managers, school energy managers working in conjunction with the Kentucky National  
18 Energy Education Development Project (NEED) and the Kentucky Green and Healthy  
19 School Program (KGHS) are actively involved with teachers in curriculum modifications  
20 that are being implemented to foster energy awareness as envisioned by the Governor's  
21 comprehensive energy plan for Kentucky, "Intelligent Energy Choices for Kentucky's  
22 Future." The energy managers work closely with the Company's demand-side  
23 management staff to benefit from energy audits and capture rebates from the Company's  
24 program as they install energy conservation measures such as efficient lighting.

25 **Q. Please explain how Kentucky's public schools utilization of energy compares to**  
26 **schools across the nation.**

27  
28 A. Kentucky's public schools had not been ignoring energy efficiency, but SEMP has  
29 successfully facilitated an acceleration and more comprehensive focus. A common metric  
30 is the energy utilization index or "EUI" (kBtu per square foot). The national average for  
31 K-12 schools is 73, while the Kentucky school district average in FY2014 was 60, down  
32 from 65 in the first year of the program. Kentucky's ENERGY STAR schools have  
33 increased from 12 in 2008 to 277, placing Kentucky fourth in the nation as a percent of  
34 K-12 eligible buildings. In addition, EPA has recognized SEMP as an ENERGY STAR  
35 Partner of the Year for energy efficiency program delivery.

36  
37 **Q. How are districts able to construct these very efficient schools?**

38  
39 A. Districts utilize the expertise of skilled architects well versed in energy efficiency  
40 methods in the design of construction projects. In addition, the Facilities Branch of the  
41 Kentucky Department of Education reviews and approves all construction projects. Use  
42 of modern wall and roof construction technologies, geothermal and variable refrigerant  
43 flow space conditioning technologies, efficient LED lighting, day-lighting and building  
44 automation control systems are primary factors contributing to highly efficient projects.  
45 However, it takes a skilled solid energy management plan lead by a skilled energy



1 manager for facilities to daily maintain design potential. It is also important to note that  
2 many existing efficient schools came into being through KU's support and recognition of  
3 the joint efficiency value to its system and schools of all electric schools.  
4

5 **Q. What is the status of the KPC School Energy Management Program approved by**  
6 **the Commission in Case No. 2014-00178?**  
7

8 A. The Program was approved by Commission Order of July 25, 2014 in Case No. 2014-  
9 0018 and was "considered compliant with the terms of, and fulfills Kentucky Power's  
10 obligations under, paragraph 12 of the Agreement, as modified by the Order in Case No.  
11 2012-00578". The Program instituted "a new two-year Demand-Side Management  
12 ("DSM") program to help fund energy management programs for schools that are  
13 mandated by KRS 160.325 to participate in the Kentucky Energy Efficiency Program —  
14 \$75,000 in 2014 and \$50,000 in 2015". The program is nearing the end of its first year.  
15 Per the Commission's Order in Case No. 2012-00578 "shareholder contribution would be  
16 incremental funding for the school energy manager program, which could be for new  
17 school energy manager(s) or additional funds for existing school managers, and that the  
18 funding would be limited to those schools in Lawrence and contiguous Kentucky  
19 counties impacted by KRS 160.325".  
20

21 Currently, there is one energy manager who was already in place serving Johnson,  
22 Lawrence, Martin County schools and Paintsville Independent. A second energy manager  
23 who serves Carter County was engaged in November 2014. Unfortunately, the delay in  
24 seeking Commission approval in case No. 2014-00178 made it very difficult to timely  
25 employ a non-classroom position as FY2014-15 budgets had already been approved.  
26

27 **Q. What are the plans for expanding the KPC Program beyond June 30 of 2016?**  
28

29 A. KSBA met with KPC officials on November 14, 2013 and discussions ensued regarding  
30 funding availability from shareholders and additional sources for all twenty-three districts  
31 served by KPC. Thereafter, on or about February 10, 2014 KPC suggested that it would  
32 only be providing shareholder funding. Regarding additional funding beyond  
33 shareholders, KPC expressed concerns with the difficulty in administering separate DSM  
34 surcharges for those districts getting the shareholder funds and those not receiving funds  
35 and the final resolution of Case No. 2012-00578 continuing to pend in court.  
36

37 **Q. What is the Companies' response to extending their School Energy Management**  
38 **Program?**  
39

40 A. Simply, KPC will review the shareholder funded program after its two-year term.  
41 However, I believe all twenty three districts have a need for this program and there is no  
42 demonstrable reason that the additional funding cannot be recovered through KPC's  
43 DSM Surcharge and collected from all applicable customers in their service territory.  
44

45 **Q. What's at risk if the Program is not timely expanded and extended?**  
46

1 A. Loss of momentum in capturing demand and energy savings beneficial to KPC and all  
2 ratepayers and the loss of energy managers to serve schools in implementation of the  
3 Commonwealth's energy efficiency initiatives. Many districts will not retain and/or  
4 rehire a non-teaching position such as an energy manager without that position being part  
5 of its operating budget which must be approved by May.  
6  
7

### 8 Rate LGS School Service

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10 **Q. Are schools served on Rate Schedules LGS subject to an unreasonable disadvantage**  
11 **to the benefit of other customers served on those rates?**  
12

13 Yes. Without specific examination of load data, one would intuitively question why  
14 schools are served on the same rate schedule as industrial and business customers. While  
15 school, commercial and industrial customers operate on a defined schedule, those  
16 schedules are drastically different. Many industries operate 2<sup>nd</sup>, 3<sup>rd</sup> and weekend shifts  
17 while stores operate extended hours into the evening year round seven days per week.  
18 Schools typically are fully occupied from 7:30 am until 2:30 pm weekdays only nine to  
19 ten months of the year with numerous shut down periods for breaks throughout the year.  
20 Schools continue open beyond instructional periods for extra-curricular activities, but by  
21 this time automation systems have begun adjusting temperatures for unoccupied space. In  
22 a nutshell school load build up typically begins around 7 am, peaks at lunch time in the  
23 warmer months and declines at a significant pace until and after the instructional day  
24 ends in early-afternoon. In the colder months schools tend to peak across the morning  
25 hours and similar to the warm periods usage/peak decline after lunch. Schools are likely  
26 closed on winter KPC peak days.  
27

28 Using data provided by the Company RLW Exhibit 1 shows the relative occurrence of  
29 monthly period peaks for schools, industrial, commercial and the system. While KPC  
30 peaks in the winter, schools peak in summer months. Commercial and industrial monthly  
31 peak loads as expected are more consistent across the months and as a result are at or  
32 near their maximum monthly load at the time of the KPC winter system peak.  
33

34 Mr. Stegall in developing Exhibit JMS-2 Class Cost of Service Study uses the Average  
35 12 CP method as the primary allocator to assign demand related costs. With KPC clearly  
36 being a winter peaking utility their capacity must be sized to meet the winter system  
37 peak. Use of the 12 CP results in a greater assignment of cost to Rate LGS and thus  
38 school accounts than would a demand method that recognizes that KPC must capacity  
39 plan based on its expected winter peak. Such an alternative method would better conform  
40 with Mr. Stegall's criteria articulated at page thirteen of his testimony, "The method  
41 should reflect the planning and operating characteristics of the utility's system".  
42

43 **Q. What is your recommendation with regard to schools served on Rates LGS.**  
44



- 1 A. The Commission should direct the Company to add Rate LGS-School to its tariff with  
2 lower charges reflective of the lesser cost to serve schools compared to commercial and  
3 industrial customers now served collectively on Rate LGS.  
4
- 5 **Q. Does this conclude your testimony?**
- 6 A. Yes.

**VERIFICATION**

STATE OF KENTUCKY

*Fayette*  
COUNTY OF ~~JEFFERSON~~

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared, Ronald L. Willhite, who, being by me first duly sworn deposed and said that:

He is appearing as a witness on the behalf of the Kentucky School Boards Association before the Kentucky Public Service Commission in an Application filed by Kentucky Utilities Company, and if present before the Commission and duly sworn, his testimony would be set forth in the annexed testimony.

*Ronald L. Willhite*

Ronald L. Willhite

SWORN TO AND SUBSCRIBED BEFORE ME this

23<sup>rd</sup> day of March, 2015

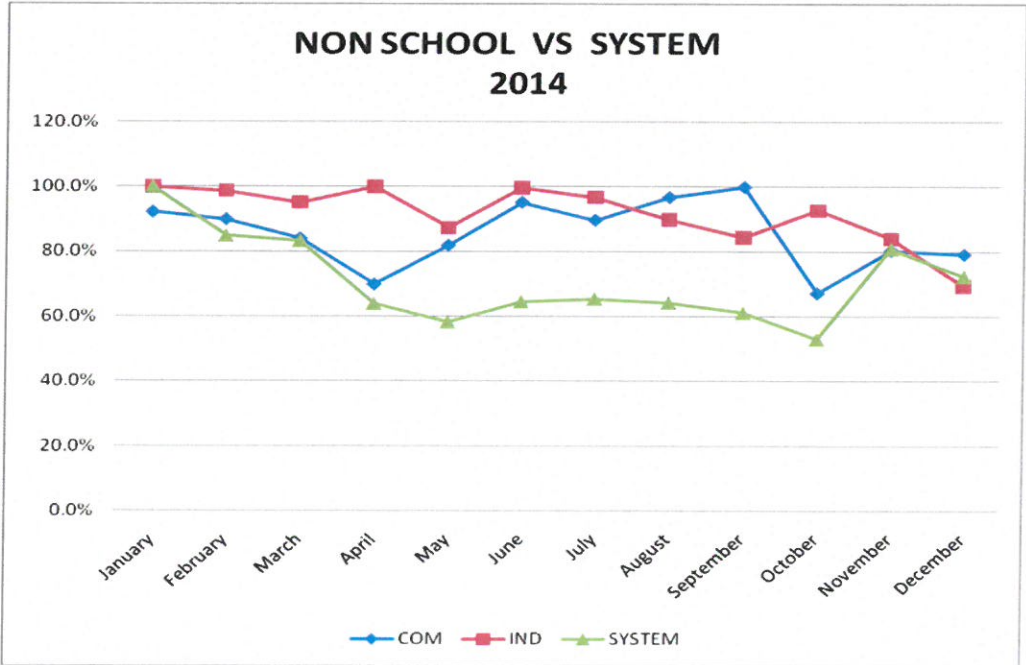
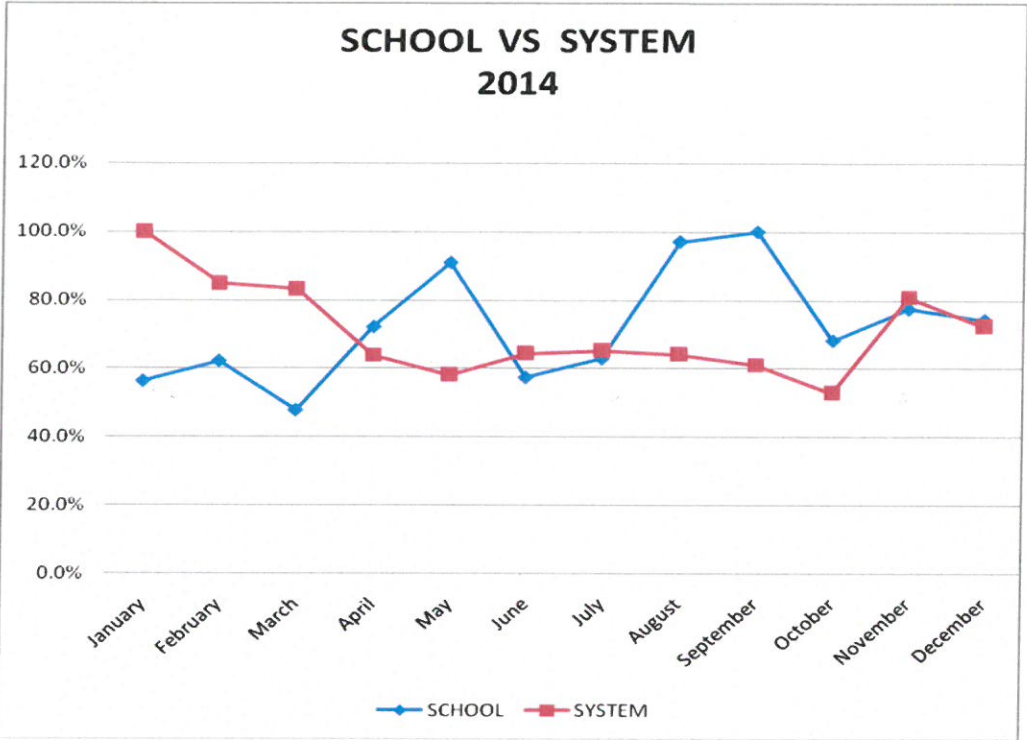
*Audra A Cannon*

NOTARY PUBLIC

*ID# 466916*

*Expiration 05-21-16*

### MONTHLY PEAK LOADS



Data Source: KSBA 2-1, 2-2, 2-3 and 2-4 Attachemnts