

**RECEIVED**

June 11, 2015

**JUN 11 2015**

PUBLIC SERVICE  
COMMISSION

Mark R. Overstreet  
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(502) 223-4387 FAX  
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**HAND DELIVERED**

Jeff R. Derouen  
Executive Director  
Public Service Commission  
211 Sower Boulevard  
P.O. Box 615  
Frankfort, KY 40602-0615

**RE: Case No. 2014-00178 (To Be Filed In Kentucky Power's General Correspondence File)**

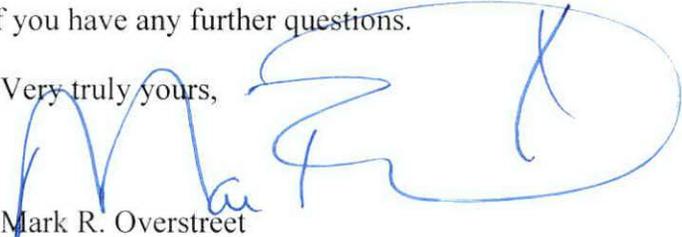
Dear Mr. Derouen:

Enclosed please find and accept for filing the report concerning the Company's School Energy Manager Program provided Kentucky Power Company by the Kentucky School Boards Association for the six-month period ended December 31, 2014. The report is being filed in accordance with the Commission's July 25, 2014 Order in the above matter.

Also enclosed is the September 2, 2014 invoice from the Kentucky School Boards Association for the \$75,000.00 payment due the association from Kentucky Power under paragraph 12 of the July 2, 2013 Stipulation and Settlement Agreement. Kentucky Power has made the \$75,000.00 payment for the 2014-2015 fiscal year in full.

Please do not hesitate to contact me if you have any further questions.

Very truly yours,

  
Mark R. Overstreet

MRO



Visit the KSBA website  
at WWW.KSBA.ORG

260 Democrat Drive  
Frankfort, Kentucky 40601  
(502) 695-4630  
(800) 372-2962

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JUN 11 2015

PUBLIC SERVICE PURCHASE ORDER NO.  
COMMISSION

INVOICE

INVOICE NO. 82574

INVOICE DATE 9/2/14

JOB I.D. KPC

BILL TO:

Kentucky Power Company  
12333 Kevin Ave  
Ashland, KY 41102

SHIP TO:

E.J. Clayton

TO ENSURE PROPER CREDIT FOR YOUR PAYMENT  
PLEASE RETURN THIS SECTION WITH PAYMENT

DESCRIPTION

UNIT PRICE

AMOUNT

7/1/14-6/30/15 Energy Management Program

75,000.00

If you have any questions regarding this invoice please contact Ron Willhite @  
502-695-4630.

Invoice No.: 82574

PO Number:

Total Due

\$75,000.00

Toll Free: 1-800-372-2962  
Fax: (502) 695-2991

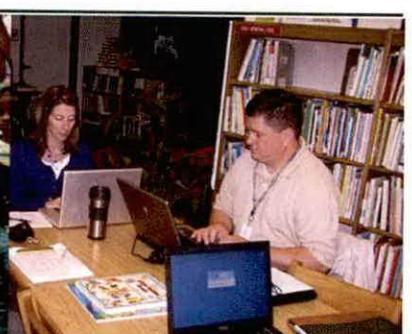
KENTUCKY SCHOOL BOARDS ASSOCIATION  
260 DEMOCRAT DRIVE, FRANKFORT, KY 40601

SEMP . . . Supporting school districts in utilizing energy more wisely by communicating, funding, and educating school boards, administrators and energy managers.



# Let's Save Energy

School Energy Managers Project



## Energy Management Program

July - December 2014

Semi- Annual Report

to

Kentucky Power Company



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## Executive Summary

The Kentucky Power School Energy Manager Program is a commercial DSM program that made available funding to eight eligible eastern Kentucky public school districts in Lawrence and contiguous counties. The program is administered by the Kentucky School Boards Association ("KSBA") as part of its School Energy Managers Project pursuant to an Energy Manager Program Agreement between Kentucky Power ("KPC") and KSBA. The following public school districts are participating: Lawrence County, Martin County, Johnson County, Paintsville Independent and Carter County. The program assists the districts in implementing energy management measures to improve energy efficiency through behavioral and facility changes by providing supporting funding for an energy manager who facilitates implementation of energy efficiency measures. As part of its obligations under the Energy Manager Program Agreement KSBA provides KPC with semi-annual reports regarding the operation of the School Energy Manager Program and energy savings achieved through the program.

The participating KPC districts reduced their FY2014 energy consumption over FY2013 by .4 percent and their peak demand by 4.9 percent

The partnership established between KPC and KSBA is providing a means for the School Energy Managers Project (SEMP) to maintain a major presence within schools in eastern Kentucky. School Energy Managers are benefitting from continuity of employment, technical training and improved skills facilitated by KSBA-SEMP. They and their school districts are benefitting from the knowledge being gained. The partnership with KPC provides leverage for energy and demand conservation measures which may not otherwise be undertaken. Future results and further technological upgrades will be impacted.

## District Funding

### KPC SCHOOL ENERGY MANAGEMENT PROGRAM

#### FUNDING DISTRIBUTION

July 1 – December 2014

<b>Carter</b>	<b>Johnson</b>	<b>Lawrence</b>	<b>Martin</b>	<b>Paintsville</b>	<b>Total</b>
<b>\$981</b>	<b>\$4,050</b>	<b>\$2,750</b>	<b>\$2,750</b>	<b>\$1,350</b>	<b>\$11,881</b>

KPC is providing \$75,000 in FY2015 and \$50,000 in FY2016 from which KSBA-SEMP is providing a 50 percent salary match for energy managers based on the relationship of KPC served K-12 schools to total district K-12 schools.

## Initiatives Implemented

The following is a summary of significant work projects carried out since fiscal year 2010 which lower the electric and total district Energy Usage Intensity, EUI. They are categorized by the type of work project.

### **Johnson Co.**

6 Schools replaced 275 Metal Halos with LED outside packs

Meade Elementary - 2013-2014 complete light retro for school 214 2x4 from T12's to LED  
- Gym relighting from 400 Metal Halo to T8

### **Lawrence Co.**

2012-2013 Honeywell Performance Contract - 6 school re-lamp, new water fixtures, upgrade on HVAC, controls

### **Paintsville Ind.**

Paintsville Elementary 2012-2013- re-lamping Gym from 400 metal halos to T8

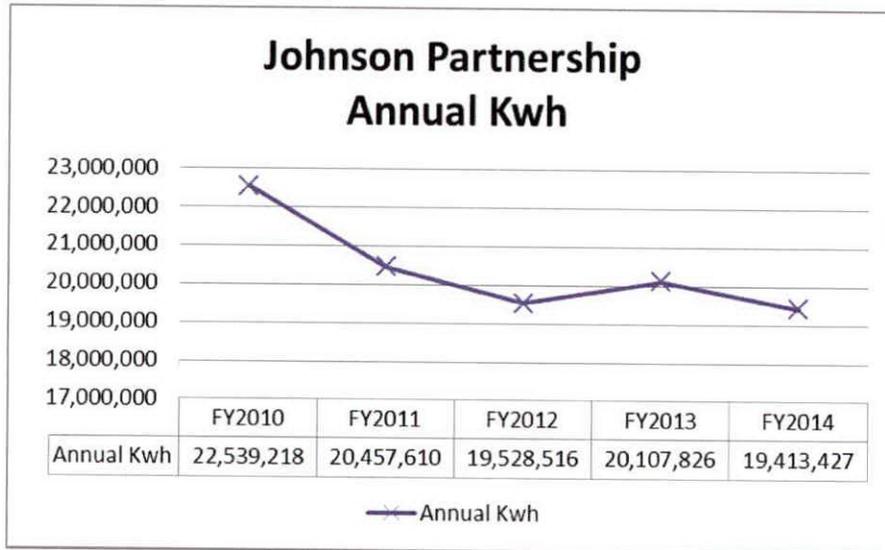
Paintsville Elementary 2014-2015, Extension of additional buildings

### **Energy Teams "Juice Krews".**

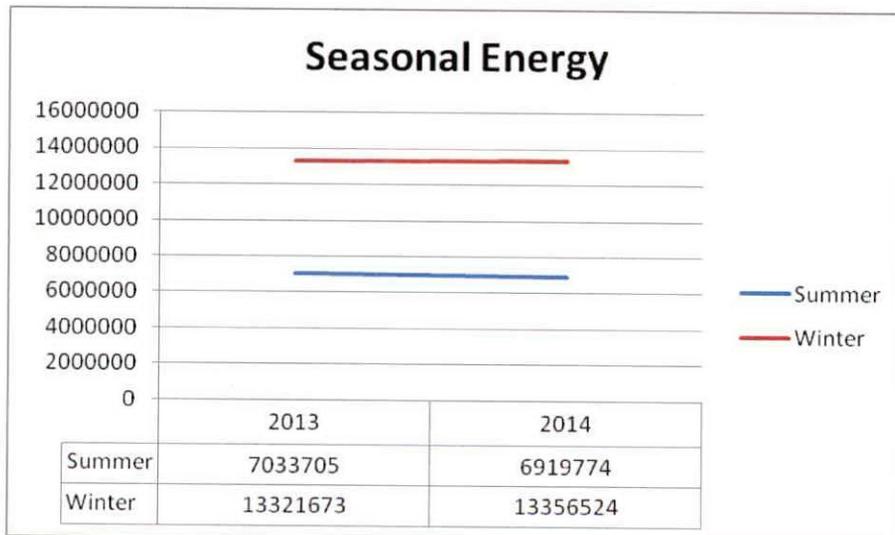
Several districts have established student energy teams which have activities ranging from building walkthrough audits to recycling.

# Preceding and Current Year Peak Demand and Energy Usage and Savings

## Energy Usage



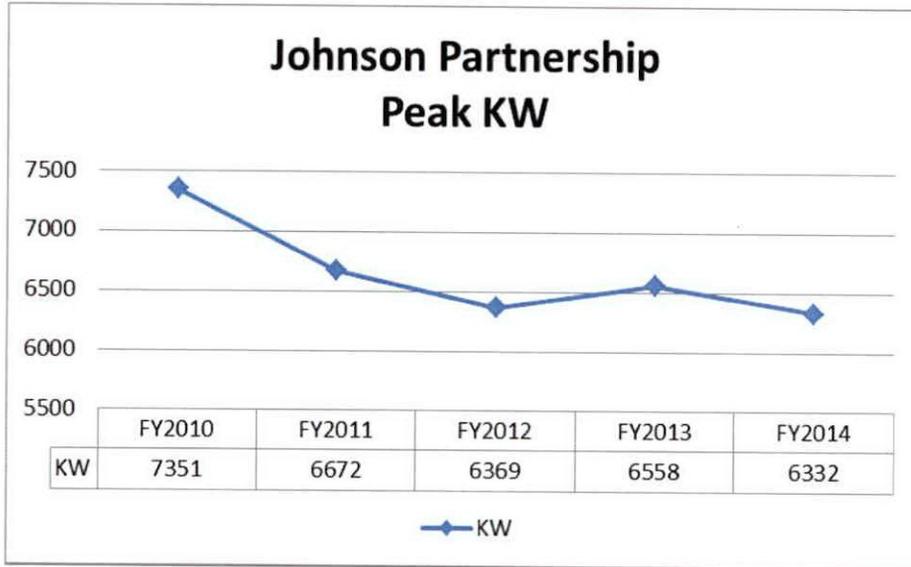
Note: Total annual Kwh data from district EMR's provided pursuant to KRS 160.325 . Martin County FY2010 & 11 assumed equal to FY2012 as data was not reported for those years.



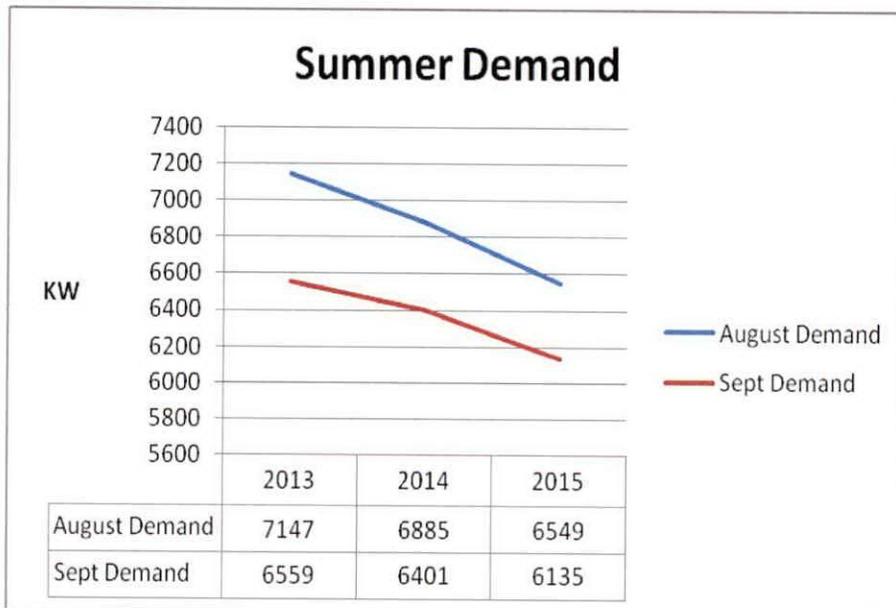
The KPC-served districts show a Summer Energy reduction of 1.6% and Winter Energy increase of .2% primarily due to last winter's extreme cold temperatures. On an annual basis the Johnson Partnership (Johnson, Lawrence, Martin and Paintsville) have reduced their energy consumption by nearly 14 percent.

# Demand Usage

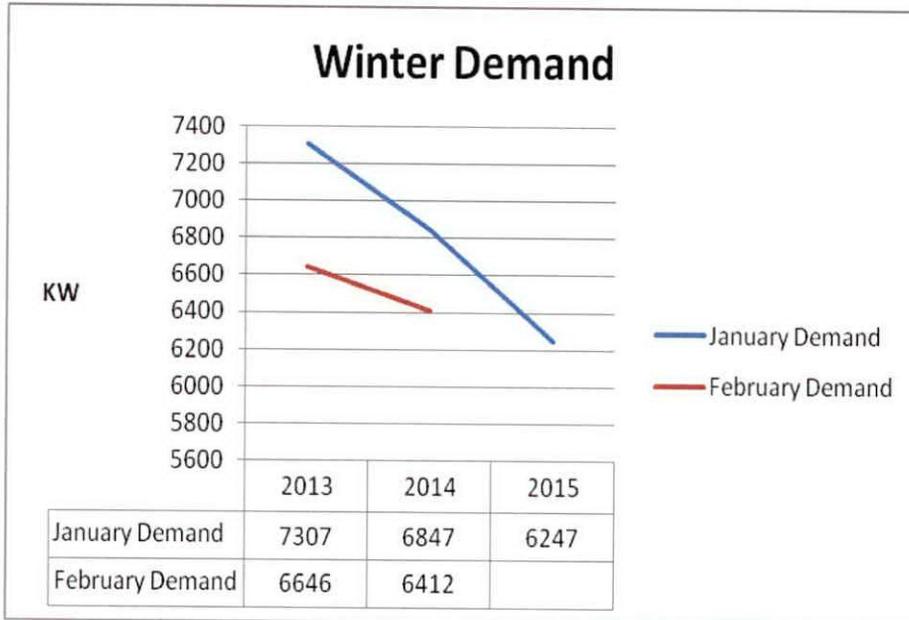
Peak demand was estimated using the Johnson Partnership combined kwh with an assumed load factor of 35 percent.



Seasonal peak loads were calculated summing individual school district measured demand data. (Demand values for non-demand billed accounts were calculated monthly using respective monthly load factor for the demand billed accounts.) The non-diversified accumulated demand data was then analyzed for Summer Demand (August and September) and Winter Demand (January and February).



The KPC-served districts showed a 4.9% reduction in August Demand and a 4.2% reduction in September Demand from FY2013 to FY2014.



*The KPC-served districts show a 6.3% reduction in January Demand and a 3.5% reduction in February Demand from FY2013 to FY2014.*

## Energy Utilization Indices

One of the key indicators for measuring energy performance is district-wide Energy Use Intensity, measured in kBtu/sf/yr. This measure is slightly different from the Building Energy Use Intensity in that the district EUI is a measure of *all* the energy use in a district divided only by the square footage of the *conditioned* area. The statewide average for district-wide EUI in FY2010 was 64.2kBtu/sf/yr. By FY2014 the district-wide EUI had dropped to 60.8 kBtu/sf/yr. Lower EUI indicates a more energy efficient condition.

Table 1, shows the data for the participating KPC served districts. The table below shows that most districts have lowered both their electric and overall EUI.

**Table 1**  
**EUI History (kbtu/sf)**  
**KU Funded Districts**

District	2010 Electric EUI	2014 Electric EUI	2010 Total EUI	2014 Total EUI
Carter	47.70	40.70	59.30	54.30
Johnson	52.20	43.40	78.20	61.20
Lawrence	55.00	38.60	68.60	51.10
Martin	dnr	34.10	dnr	45.20
Paintsville	35.70	37.90	53.30	50.40

### **KSBA-District Memorandum of Agreement**

From the Kentucky School Boards Association standpoint, the process began with execution of a Memorandum of Agreement (MOA) with a "Lead" school district in a KPC-served area who wanted to participate in the program. The MOA outlined the obligations of the district in terms of employing an energy manager, data collection, reporting, energy and demand reduction goals, and also financial remuneration based on the number of KPC K-12 schools within each school district who may have partnered with the Lead to share in the costs and services of the energy manager.

Since some Energy Managers cover multiple school districts, it was up to the lead school district in a partnership to set up a partnership agreement with each participating partner.

### **Data Gathering**

Energy Usage and Demand data is gathered by month for each district beginning with July 2012 through January 2014. Where historical demand and usage data was missing from district records, KPC regional customer support managers were contacted to fill in the required data.

### **Data Scrubbing**

Only those accounts that were present since July 2012 and still remaining today were analyzed. Accounts which have been vacated since July 2012 were eliminated from the data analysis. Accounts which are new since that were new since July 2012 are reflected in the overall district EUI but not in the demand or usage results. Accounts which had usage and demand changes due to renovations were either eliminated from the data base or reconciled by square footage calculations.

### **Data Analysis**

Following the scrubbing of the data, each district's data was graphed showing individual performance on energy and demand reductions. For the demand accounts, data was plotted as Summer Demand, Winter Demand, and Energy-by-Season. For the non-demand accounts, a load factor was calculated using the demand accounts and then applied to calculate a demand value for the accounts where demand was not captured.