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April 13, 2012

Mark R. Overstreet  
(502) 209-1219  
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moverstreet@stites.com

**HAND DELIVERED**

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

RECEIVED

APR 16 2012

PUBLIC SERVICE  
COMMISSION

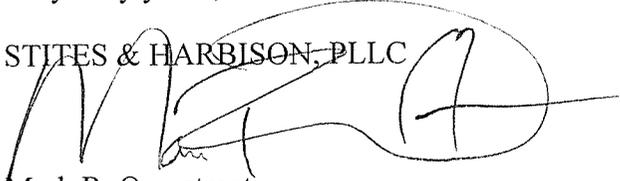
RE: Case No. 2011-00401

Dear Mr. Derouen:

Enclosed please find and accept for filing the original and 12 copies of the Responses of Kentucky Power Company to Staff's Fourth Set of Data Requests.

Very truly yours,

STITES & HARBISON, PLLC

  
Mark R. Overstreet

MRO

cc: Counsel of Record  
Consultants of Record

*PSC  
original*

COMMONWEALTH OF KENTUCKY  
BEFORE THE  
PUBLIC SERVICE COMMISSION OF KENTUCKY

RECEIVED

APR 16 2012

IN THE MATTER OF

PUBLIC SERVICE  
COMMISSION

APPLICATION OF KENTUCKY POWER COMPANY )  
FOR APPROVAL OF ITS ENVIRONMENTAL )  
SURCHARGE PLAN, APPROVAL OF ITS AMENDED )  
ENVIRONMENTAL COST RECOVERY ) CASE NO. 2011-00401  
SURCHARGE TARIFFS, AND FOR THE GRANT OF )  
CERTIFICATES OF PUBLIC CONVENIENCE AND )  
NECESSITY FOR THE CONSTRUCTION AND )  
ACQUISITION OF RELATED FACILITIES )

RESPONSES OF KENTUCKY POWER COMPANY TO  
COMMISSION STAFF'S FOURTH SET OF DATA REQUESTS

April 16, 2012







## Kentucky Power Company

### REQUEST

Provide a revised version of the least-cost analysis used in all of Kentucky Power's original testimony and data responses to date to reflect current conditions within the industry. Provide supporting details and sources for all assumptions, data, and regulatory requirements that drive specific alternatives. Include support for capital costs. Indicate timing issues that may arise with certain alternatives, including environmental requirements. Consider and account for any recent regulatory changes in Ohio or other states that may change the supply chain or availability of materials, equipment, or services. Include at a minimum:

- a. PJM energy and capacity costs going forward;
- b. Gas prices going forward;
- c. Coal prices going forward;
- d. Current energy and peak demand projections;
- e. Current capital costs for all projects under consideration;
- f. Include all previous alternatives, if still available, as well as any new alternatives that may now be available;
- g. Consider any recent regulatory changes in Ohio or other states that may change the supply mix or availability;
- h. Consider a range of costs for CO<sub>2</sub>;
- i. Consider a five-year purchased power approach, as well as any longer periods that may be optimum.

### RESPONSE

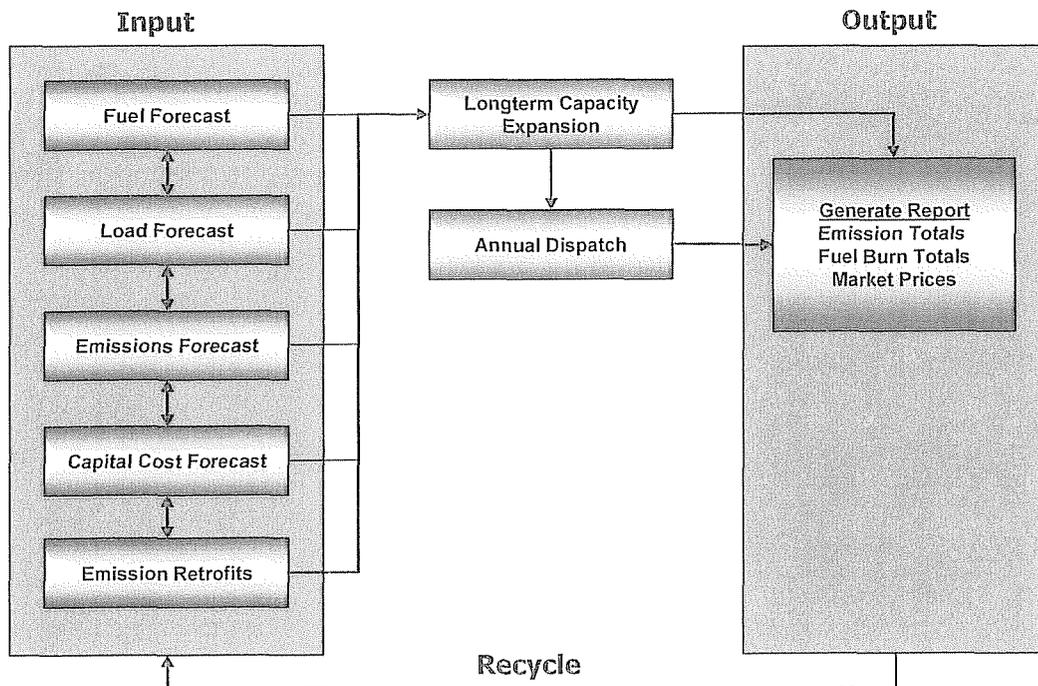
The Company has not revised any of the least cost analyses provided in its testimony or subsequent data responses. The data used in those analyses remains the most current data available. The Long-Term Forecast begins with a fundamental view of the primary input drivers (fuel supply, load, impending regulatory policy, capital costs, etc.) which is developed by internal subject-matter experts and benchmarked to public and contract consultants' information. A third-party dispatch model, Aurora<sup>XMP</sup>, takes the long-term view of these primary drivers and, after multiple iterations requiring correlative input changes, delivers PJM energy and capacity values, peak demand projections and other power market parameters. The process of creating the Long-Term Forecast takes approximately two months to complete. In addition, it would take another 4 weeks of Strategist work to complete all of the modeling. To this point, there have been no meaningful changes to the primary drivers and accordingly there would be no material differences if the analyses were run to reflect the April 1, 2012 condition in the industry.

In particular:

Natural Gas; The extraordinarily mild 2011-2012 heating season has caused nearby natural gas spot prices to drop to sub-\$2/mmBtu levels due to high storage inventories and certain summer storage re-fill congestion. It is equally likely that, in the event of a colder-than-normal heating season, natural gas spot prices could exceed \$7/mmBtu. But, on a weather-normalized basis, the fundamentals of natural gas production costs to meet the anticipated total natural gas demand still results in prices equivalent to those projected in Kentucky Power's original testimony for 2013 and beyond. The dominant factor for this observation is that the long-term projection for exploration, development and production costs for shale gas remains unchanged – thus creating a “floor” price. While natural gas prices may incur additional environmental costs due to the process of hydro-fracturing, additional “associated gas” may be brought to market because of the economic advantage of oil/liquids-rich shale plays. But, at this time, there is no reasonable justification to alter the long-term outlook for natural gas prices to Kentucky Power.

Coal; Kentucky Power Company's coal forecast was based upon the long-term costs of coal production and the demand associated with normal weather. It includes assessments of coal-fired plant retirements due to impending environmental regulations and projections of US coal exports due to rising global demand - and these conditions remain unchanged. For the near term, the forecast coal prices will be affected by many other factors, including weather, competing fuel and utility coal stockpile levels. The mild 2011-2012 heating season along with inexpensive natural gas have made coal-fired plant dispatch lower than expected and has left utilities with high stockpiles. This over-supply of coal in the near-term depresses coal prices to such low levels that they are below the cost of production for many less-efficient mines. Coal producers have started to cut down their production to re-balance the supply-demand relationship, and coal prices will recover to cost-of-production based levels in the near-term. Therefore, the forecast prices for the long-term remain valid.

Capacity, energy and peak-demand; The third-party dispatch model, Aurora<sup>XMP</sup>, has power market values/prices as “outputs” (as shown in the illustration below). Given that there has been no substantive change to the long-term view of the primary input drivers, the outputs and, therefore, the Long-Term Forecast, should remain unchanged.



A range of costs for CO<sub>2</sub>; Without question, the creation of a Long-Term Forecast which considers a range of CO<sub>2</sub> costs must include correlative changes to other input drivers. It is imprudent to ignore: 1) the effect of coal plant dispatch costs on coal prices due to changes in demand, 2) changes in gas-fired plant utilization and the effect on natural gas prices, 3) changes in plant retirement schedules, 4) the price elasticity of residential, commercial and industrial demand, for example. The necessary “feedback” loops” (iterations) to create a prudent set of Long-Term Forecasts with a range of costs for CO<sub>2</sub> will require two months to complete.

The Company has not updated any of the capital costs for any of the alternatives and those alternatives provided in the original testimony are still the only alternatives the Company believes are available.

AEP made a filing at FERC in early February 2012 that included a new Power Cost Sharing Agreement (PCSA) that would replace the current pool agreement. As part of the proposed PCSA, KPCo would have purchased a 20% ownership in Mitchell Units 1 and 2. That filing has since been withdrawn, but the Company anticipates resubmitting another filing at a later time this year that will include the purchase of 20% of the Mitchell Units. The transfer of Ohio Power (OPCo) generation to sister companies within AEP was proposed specifically for purposes of supporting the new PCSA. KPCo has no other rights to any additional OPCo generation nor does OPCo have any obligation to KPCo with any additional generation. The Company lacks a reasonable basis to project the availability or price of any additional Ohio generation.

The Company in its application prepared alternative #4A and #4B that looked at both a 5 and 10 year purchase power approach and then would either build or replace with CC capacity. The Company is not able to consider other alternative options at the end of the purchased power approach in the time required to respond to this data request. At a minimum, it would take 8 to 10 weeks to perform the necessary due diligence to evaluate the change in costs due to delaying the DFGD project and economic evaluation of such changes through our modeling exercises.

WITNESS: Scott C Weaver



Kentucky Power Company

**REQUEST**

Kentucky Power's Application, filed December 5, 2011, indicated that notice of its proposed environmental surcharge was to be published once a week for three consecutive weeks in newspapers of general circulation in Kentucky Power's service territory. Kentucky Power further stated that proof of publication would be filed upon the completion of such publication. Provide an affidavit from the publishers verifying the notice was published, including the dates of publication, with an attached copy of the published notices

**RESPONSE**

Please see Attachment 1 of this response.

WITNESS: Ranie K. Wohnhas

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In The Matter Of:

APPLICATION OF KENTUCKY POWER  
COMPANY FOR APPROVAL OF ITS  
2011 ENVIRONMENTAL COMPLIANCE  
PLAN, FOR APPROVAL OF ITS  
AMENDED ENVIRONMENTAL COST  
RECOVERY SURCHARGE TARIFF, AND  
FOR THE GRANTING OF A  
CERTIFICATE OF PUBLIC  
CONVENIENCE AND NECESSITY FOR  
THE CONSTRUCTION AND  
ACQUISITION OF RELATED  
FACILITIES

RECEIVED

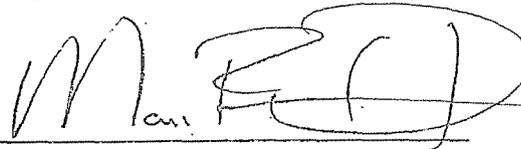
CASE NO. 2011-00401 APR 03 2012

PUBLIC SERVICE  
COMMISSION

Notice of Filing of Proofs of Publication

Kentucky Power Company hereby files with the Public Service Commission of Kentucky its proofs of publication of the notices of its proposed environmental surcharge, including an affidavit verifying the publication of the notice, along with the dates of the publications, and copies of the notice.

Respectfully submitted,



Mark R. Overstreet  
R. Benjamin Crittenden  
STITES & HARBISON PLLC  
421 West Main Street  
P. O. Box 634  
Frankfort, Kentucky 40602-0634  
Telephone: (502) 223-3477

COUNSEL FOR KENTUCKY POWER  
COMPANY

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing (without clippings) was served by first class mail upon the following parties of record on this 3<sup>rd</sup> day of April, 2012.

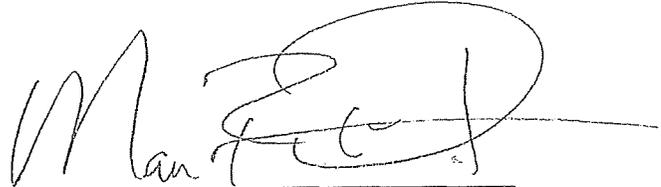
Michael L. Kurtz  
Boehm, Kurtz & Lowry  
Suite 1510  
36 East Seventh Street  
Cincinnati, Ohio 45202

Joe F. Childers  
Joe F. Childers & Associates  
300 The Lexington Building  
201 West Short Street  
Lexington, Kentucky 40507

Dennis G. Howard II  
Lawrence W. Cook  
Assistant Attorney General  
Office for Rate Intervention  
P.O. Box 2000  
Frankfort, Kentucky 40602-2000

Kristin Henry  
Sierra Club  
85 Second Street  
San Francisco, California 94105

Shannon Fisk  
235 Rector St.  
Philadelphia, PA 19128



Counsel for Kentucky Power Company

NOTARIZED PROOF OF PUBLICATION

COMMONWEALTH OF KENTUCKY

COUNTY OF Franklin

Before me, a Notary Public, in and for said county and state, this 4<sup>th</sup> day of January, <sup>2012</sup> ~~2011~~, came RACHOL M. SCARDY, personally known to me, who, being duly sworn, states as follows: that she is the Advertising Assistant of the Kentucky Press Service, Inc.; that she has personal knowledge of the contents of this Affidavit; that the newspapers shown on Attachment No. 1 to this Affidavit published the Public Notice, on the dates shown thereon at the request of Kentucky Press Service, Inc. for Kentucky Power Company; that the form and content of the Notice submitted for publication to each paper is shown in Attachment No. 2 to this Affidavit; and that the Kentucky Press Service, Inc. has presented to Kentucky Power Company proof of these publications in the form of "tear sheets" for retention in its files.

Rachol M. Scardy  
Signature

Bonnie J. Howard  
Notary Public  
My Commission Expires: 9-18-12

(SEAL)

## KENTUCKY PRESS SERVICE

101 Consumer Lane  
(502) 223-8321

Frankfort, KY 40601  
FAX (502) 875-2624

*Rachel McCarty Advertising Dept.*

List of newspapers running the Notice to Kentucky Power Company Customers. Attached tearsheets provide proof of publication:

Ashland Daily Independent--Nov. 30, Dec. 7 & 14  
Booneville Sentinel--Dec. 1, 8 & 15  
Grayson Journal--Nov. 30, Dec. 7 & 14  
Greenup News --Dec. 1, 8 & 15  
Hazard Herald --Nov. 30, Dec. 7 & 14  
Hindman Troublesome Creek Times --Dec. 1, 8 & 15  
Hyden Leslie Co. News --Dec. 1, 8 & 15  
Inez Mt. Citizen --Nov. 30, Dec. 7 & 14  
Jackson Times Voice --Dec. 1, 8 & 15  
Louisa Big Sandy News --Nov. 30, Dec. 7 & 14  
Manchester Enterprise --Dec. 1, 8 & 15  
Morehead News --Nov. 29, Dec. 6 & 13  
Paintsville Herald --Nov. 30, Dec. 7 & 14  
Pikeville Appalachian News --Nov. 30, Dec. 7 & 14  
Prestonsburg Floyd Co. --Nov. 30, Dec. 7 & 14  
Salyersville Independent --Dec. 1, 8 & 15  
Sandy Hook Elliott Co. News --Dec. 2, 9 & 16  
Vanceburg Lewis Herald--Nov. 29, Dec. 6 & 13  
West Liberty Licking Valley --Dec. 1, 8 & 15  
Whitesburg Mt. Eagle --Nov. 30, Dec. 7 & 14

11/21/2011 MON 8:33 FAX 5026967009 KY POWER RATES FRANKFORT

004/009

NOTICE TO CUSTOMERS  
OF  
KENTUCKY POWER COMPANY  
PROPOSED CHANGES TO THE ENVIRONMENTAL SURCHARGE TARIFF

*PLEASE TAKE NOTICE* that Kentucky Power Company (KPCo) will file an Application with the Kentucky Public Service Commission (the Commission) in Case No. 2011-00401 on December 5, 2011. Pursuant to Kentucky Revised Statute 278.183, the Application will request approval of an amended compliance plan (2011 Environmental Compliance Plan) for the purpose of recovering the capital and operation and maintenance costs associated with new pollution control facilities through an increase in the environmental surcharge on customers' bills rendered on and after July 31, 2012, under KPCo's Tariff E.S., also known as the environmental surcharge. This tariff contains the environmental surcharge ratemaking formula and other terms and conditions. The proposed changes, if approved, will allow KPCo to apply a surcharge to all customer bills rendered on and after July 31, 2012, to recover additional costs of complying with the Federal Clean Air Act, as amended, and other federal and state or local environmental requirements which apply to coal combustion wastes and by-products from facilities utilized for the production of energy from coal in accordance with KPCo's environmental compliance plan.

Federal, state, and local environmental regulations require KPCo to build and upgrade equipment and facilities to operate in an environmentally sound manner. Specifically, KPCo is seeking Commission approval of a Certificate of Public Convenience and Necessity (CPCN) to build a Dry Flue Gas Desulfurization (DFGD) system for Unit 2 at its Big Sandy Generating Station in Lawrence County, Kentucky. The 2011 Environmental Compliance Plan also includes KPCo's share of an Activated Carbon Injection (ACI) system put in-service in September 2009 at Rockport Generating Station Units 1 and 2; Selective Non-Catalytic Reduction (SNCR) systems put in-service in December 2009 at Tanners Creek Generating Station Units 1, 2 and 3; Dry Fly Ash Disposal Conversion put in-service in August 2010 at Amos Generating Station Unit 3; Mercury In-Pond Chemical Treatment put in-service in July 2011, as well as Ash Pond Discharge Diffusers and Flue Gas Desulfurization Mercury Waste Water Treatment facilities to be built by the fourth quarter of 2012 at Amos Generating Station Common Plant. Additional required environmental allowances to meet the Cross State Air Pollution Rule are also included in this filing. The capital cost of the new pollution control facilities for which KPCo will seek cost recovery at this time is estimated to be \$1.07 billion. Additional operation and maintenance expenses will be incurred for these projects and are costs that KPCo is requesting to recover through the environmental surcharge in its application.

11/21/2011 MON 8:33 FAX 5026967009 KY POWER RATES FRANKFORT

005/009

The impact on KPCo's electric customers is estimated to be a 0.20% increase in 2012 with a maximum increase of 31.41% in 2016. For a KPCo residential customer using an average of 1,000 kWh per month, the initial monthly increase is expected to be \$0.20 in 2012, with a maximum monthly increase expected to be \$30.76 in 2016.

The Environmental Surcharge Application and tariff change described in this Notice is proposed by KPCo. However, the Public Service Commission may issue an order modifying or denying KPCo's application and proposed tariff change. Such action may result in a change in the environmental surcharge amount for a customer that is different than the environmental surcharge amounts in this notice.

\*\*\*\*\*

Any corporation, association, body politic or person may, by motion within thirty (30) days after publication or mailing of notice of the proposed changes to the environmental surcharge tariff, request leave to intervene in Case No. 2011-00401. That motion shall be submitted to the Public Service Commission, 211 Sower Boulevard, P.O. Box 615, Frankfort, Kentucky 40602-0615, and shall set forth the grounds for the request including the status and interest of the party.

Intervenors may obtain copies of the Application and supporting testimony by contacting Kentucky Power Company at 101A Enterprise Drive, P.O. Box 5190, Frankfort, Kentucky 40602-5190, attention Ranie K. Wohnhas. A copy of the Application and testimony is available for public inspection at KPCo's district service buildings located in Ashland, Hazard, and Pikeville.



## Kentucky Power Company

### REQUEST

Refer to Kentucky Power's response to the Commission Staff's Third Information Request ("Staff's Third Request"), Item No. 13. Provide the following:

- a. The January 1, 2000 (or closest available date) dispatch order of the AEP East Pool by generating unit.
- b. Confirm that the Cook Units are nuclear; the Dresden, Waterford, and Lawrenceburg units are natural gas; and that Rockport Units 1 & 2 are coal-fired.
- c. Identify the four generating stations in the AEP East Pool at which new generating units have been most recently placed in service.

### RESPONSE

- a. June of 2006 is the closest date that could be located. The average hourly dispatch order from lowest cost to highest cost for June 2006 was as follows:  
Cook units 1&2  
Gavin 1  
Zimmer 1  
Gavin 2  
Rockport 1  
Rockport 2  
Mountaineer 1  
Tanners Creek 4  
Amos 1  
Amos 2  
Amos 3  
Stuart 2  
Conesville 6  
Stuart 4  
Cardinal 1  
Conesville 5  
Tanners Creek 3  
Stuart 1  
Tanners Creek 1

Tanners Creek 2  
Big Sandy 2  
Muskingum River 5  
Mitchell 2  
Mitchell 1  
Big Sandy 1  
Stuart 3  
Kammer 1  
Clinch River 3  
Kammer 3  
Kammer 2  
Clinch River 1  
Sporn 3  
Sporn 4  
Clinch River 2  
Sporn 1  
Kanawha River 1  
Glenn Lyn 6  
Muskingum River 4  
Muskingum River 3  
Beckjord 6  
Muskingum River 2  
Ceredo 5  
Ceredo 2  
Ceredo 1  
Ceredo 6  
Conesville 3  
Glenn Lyn 5  
Waterford CC  
Picway 5

The list only includes generating units that ran.

- b. Confirmed. The DC Cook units 1&2 are nuclear; the Dresden, Waterford, and Lawrenceburg units are combined cycle natural gas plants, and Rockport units 1&2 are fueled by coal.
- c. Dresden CC , Darby CTs, Lawrenceburg CC and Ceredo CTs.

WITNESS: Ranie K Wohnhas



## Kentucky Power Company

### REQUEST

Refer to Kentucky Power's response to Staff's Third Request, Item No. 8. Provide the following:

- a. Identify where in the 2010 AEP East Integrated Resource Plan ("2010 IRP") the economic viability of continuing to operate the existing generation fleet under present and anticipated regulations is addressed.
- b. Identify the type of fuel that was anticipated in the 2010 IRP for capacity additions in the 2018-2019 timeframe.

### RESPONSE

- a. Section 3.4 which begins on page 21 of the AEP East 2010 IRP (page 45 of 169 of Attachment 5 to Sierra 1-3) describes the analysis undertaken by the Company with regard to the continued operation of its existing generating fleet.
- b. Exhibit 11-1 on page 101 of the AEP East 2010 IRP (page 125 of 169 of Attachment 5 to Sierra 1-3) includes a 68 MW uprate of the Cook Nuclear Plant for KPCo affiliate I&M and a 314 MW natural gas peaking facility (combustion turbine) to be jointly owned by KPCo and KPCo affiliate APCo. The 2010 IRP also identifies renewable technology additions during this time period.

WITNESS: Ranie K. Wohnhas