



a PPL company

Mr. Jeff DeRouen  
Executive Director  
Kentucky Public Service Commission  
211 Sower Boulevard  
Frankfort, KY 40602

RECEIVED

FEB 14 2011

PUBLIC SERVICE  
COMMISSION

Kentucky Utilities Company  
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February 14, 2011

**RE: APPLICATION OF KENTUCKY UTILITIES COMPANY FOR A  
CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
FOR THE CONSTRUCTION OF TRANSMISSION FACILITIES IN  
MCCRACKEN COUNTY, KENTUCKY - CASE NO. 2010-00164**

Dear Mr. DeRouen:

Please find enclosed and accept for filing the original and ten (10) copies of the Response of Kentucky Utilities Company to the Second Information Request of Commission Staff dated February 2, 2011, in the above-referenced matter.

Also enclosed are an original and ten (10) copies of a Petition for Confidential Protection regarding information provided in response to Question Nos. 2(a), 4(b), 10, and Question No. 11.

Due to the unavailability of Lonnie E. Bellar to sign his verification page, the Company will file his verification page on February 18, 2011.

Should you have any questions concerning the enclosed, please contact me at your convenience.

Sincerely,

Rick E. Lovekamp

Enclosures

cc: Parties of Record

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

**In the Matter of:**

<b>APPLICATION OF KENTUCKY UTILITIES</b>	)	
<b>COMPANY FOR A CERTIFICATE OF</b>	)	
<b>PUBLIC CONVENIENCE AND NECESSITY</b>	)	<b>CASE NO.</b>
<b>FOR THE CONSTRUCTION OF</b>	)	<b>2010-00164</b>
<b>TRANSMISSION FACILITIES IN MCCRACKEN</b>	)	
<b>COUNTY, KENTUCKY</b>	)	


**RESPONSE OF**  
**KENTUCKY UTILITIES COMPANY**  
**TO THE**  
**COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION**  
**DATED FEBRUARY 2, 2011**

**FILED: February 14, 2011**

VERIFICATION

COMMONWEALTH OF KENTUCKY )  
 ) SS:  
COUNTY OF JEFFERSON )

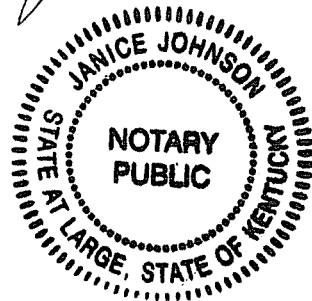
The undersigned, **Edwin R. Staton**, being duly sworn, deposes and says that he is Director - Transmission for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
Edwin R. Staton

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 14 day of February 2011.

 (SEAL)  
Notary Public

My Commission Expires:  
9/29/2014



**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

**Response to Commission Staff's Second Data Request  
Dated February 2, 2011**

**Question No. 1**

**Witness: Edwin R. Staton**

- Q-1. Refer to Item 5 of Commission Staff's First Information Request.
- a. Explain in detail the impact that TVA's retirement of Unit 10 at Shawnee will have on the analyses supporting the need for the proposed 161 kV transmission line from the Grahamville Substation to the Electric Energy, Inc. ("EEI") Transmission line.
  - b. Explain in detail the impact that American Municipal Power's addition of hydroelectric facilities on the Ohio River will have on the analyses supporting the need for the proposed 161 kV transmission line from the Grahamville Substation to the EEI Transmission line.
- A-1.
- a. Among the reasons for the construction of the proposed line is the need to alleviate voltage issues during an outage of the existing C33 (DOE) to Grahamville (KU) 161 kV line. The retirement of Unit 10 at Shawnee will not impact the voltage issues during an outage of the existing C33 (DOE) to Grahamville (KU) 161 kV line.
  - b. As noted above, one of the reasons for the construction of the proposed line is to help alleviate voltage issues during an outage on C33. Assuming the question refers to hydroelectric facilities that American Municipal Power is adding at its Cannelton site approximately 120 miles from Paducah, those hydroelectric facilities will not impact the voltage issues during an outage of the existing C33 (DOE) to Grahamville (KU) 161 kV line.

**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

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**Question No. 2**

**Witness: Edwin R. Staton / Lonnie E. Bellar**

- Q-2. The direct testimony of Lonnie E. Bellar states at page 4 that KU's transmission service for the Electric Plant Board of the city of Paducah, Kentucky ("Paducah") is limited to 125 MW in the summer season, while the Motion for Full Intervention ("Motion") filed by Paducah states at page 2 that Paducah has a summer peak of 161 MW.
- a. Does the entire 125 MW that KU is now able to transmit to Paducah flow on the existing 161 kV line from the Grahamville Substation to the DOE Substation? If not, explain in detail which KU lines the 125 MW flows on and the amount that flows on each line.
  - b. What are the line ratings for each existing KU line used to serve Paducah?
- A-2. a. The free-flowing transmission network in the area provides NITS service for local area loads of Paducah, KU and TVA. The support to the area is through two 161kV lines, C33 (DOE) to Grahamville (KU) and Livingston Co (KU) to South Paducah (KU), and two 69 kV lines between Ky Dam (TVA) and South Paducah (KU). During "normal" transmission system conditions, the transmission flows into the area will split amongst the four lines. The split will vary depending on external factors such as generation dispatch and transmission configuration. During a contingency outage of the Livingston Co (KU) to South Paducah (KU) 161 kV line, essentially all of the local area load will flow through the C33 (DOE) to Grahamville (KU) 161 kV line.

The attached diagram depicting the peak summer flows is considered confidential and will be the subject of a Petition for Confidential Protection.

- b. The MVA ratings of the four lines providing support to the Paducah, KU and TVA load in the area are shown below:

Line	SN	SE	WN	WE
C33 to Grahamville 161 kV	307	335	335	335
Livingston Co to South Paducah 161 kV	194	224	253	253
Ky Dam to South Paducah 69 kV ckt1	35	35	57	57
Ky Dam to South Paducah 69 kV ckt2	15	15	48	52

SN = Summer Normal, SE = Summer Emergency, WN = Winter Normal and WE = Winter Emergency

**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

**Response to Commission Staff's Second Data Request  
Dated February 2, 2011**

**Question No. 3**

**Witness: Edwin R. Staton/Counsel**

- Q-3. Paducah's Motion states at pages 2 and 3 that it is able to serve its summer peak load of 161 MW, despite KU's transmission limit of 125 MW, by acquiring the difference at a higher cost by special arrangement with TVA or by operating its natural gas peaking generation. What was the additional cost to Paducah to meet its load in the summer of 2010 due to KU's transmission limit of 125 MW?
- A-3. KU has been advised by representatives of Paducah Power System ("Paducah") that Paducah's additional cost to meet its load during the summer of 2010 was \$3,357,063. That figure is net of the costs Paducah would have paid for the total amount (74,263 MWh) that Paducah either bought from TVA or generated at its peaking plant during the months of June through October of 2010. For purposes of the calculation, the average Day Ahead price for each of the months was used because the power blocks previously purchased to meet Paducah's load were sold in their entirety on the Real Time market and the forecasted load was purchased Day Ahead. Paducah did not actually purchase or generate any power in October 2010 due to the 125 MW transmission limit, but still incurred transmission reserve costs from TVA.

**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

**Response to Commission Staff's Second Data Request  
Dated February 2, 2011**

**Question No. 4**

**Witness: Edwin R. Staton**

- Q-4.
- a. Provide the 2010 summer peak load of the Princeton Electric Plant Board ("Princeton").
  - b. Describe the KU transmission lines used to serve this load.
  - c. Explain any transmission limits that prevent KU from serving Princeton's peak load.
  - d. If KU was unable to serve Princeton's 2010 peak load due to transmission limits, state KU's maximum transmission capacity for serving Princeton's peak load and explain how Princeton was able to meet its peak load.
  - e. Did Princeton incur additional costs to meet its 2010 summer load due to KU transmission limits? If so, how much additional cost was incurred?
  - f. What are the line ratings for each existing KU line used to serve Princeton?

- A-4.
- a. Princeton's summer peak load for 2010 occurred on August 12, 2010 and was 26.93 MW, 5.43 MVAR, and 27.5 MVA.
  - b. The Princeton load is served via the Princeton North 161kV switching station which has 161kV transmission line connections to Livingston County and Earlington North 161kV stations.

The attached diagram depicting Princeton's summer 2010 peak day is considered confidential and will be the subject of a Petition for Confidential Protection.

- c. KU did not have any limitations serving Princeton's load.
- d. N/A



e. N/A

f. See the diagram provided in response B above.

**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

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Dated February 2, 2011**

**Question No. 5**

**Witness: Lonnie E. Bellar/Counsel**

Q-5. Does KU agree that the transmission line proposed in this case is not needed for Paducah and Princeton to acquire power to reliably serve their customers but, rather, is needed for Paducah and Princeton to acquire power at a lower cost than the power they now acquire to serve their customers? If not, explain in detail why Paducah and Princeton are not able to continue to reliably serve their customers as they did in 2010?

A-5. No, KU does not agree. KU has been advised by representatives of Paducah Power System ("Paducah") that, while Paducah is interested in providing service at a reasonable cost, the proposed line responds to Paducah's reliability needs as well. Paducah believes that if its combustion turbine generation is not available, then, without the proposed line, Paducah will experience outages. Further, Paducah has advised KU that TVA has not agreed to, and has no obligation to, serve Paducah or Kentucky Municipal Power Agency ("KMPA"). By virtue of KU's FERC-mandated open access obligation to provide service to Paducah and the Princeton Electric Plant Board, the construction of the proposed facilities responds to the foregoing needs of the public residing in Paducah and Princeton. See Edwin R. Staton Direct Testimony at 8 and Lonnie E. Bellar's Direct Testimony at 5-6.

In addition, after construction, the proposed line will be a "network facility," meaning it will be used to support OATT customers, both Network and Point-to-Point, from time to time, including LG&E/KU customers. See Lonnie E. Bellar Direct Testimony at 4. Adding the new network facilities will enhance reliability to all customers of KU. See Lonnie E. Bellar Direct Testimony at 5. This support to LG&E and KU customers and the additional reliability to KU customers relate to KU's statutory obligation under KRS 278.030(2) to provide adequate, efficient and reasonable service.

**KENTUCKY UTILITIES COMPANY**

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**Question No. 6**

**Witness: Edwin R. Staton**

- Q-6. Does KU have a long-term contract for Network Integration Transmission Service ("NITS") with Paducah and Princeton or with someone acting on their behalf? If so, for how many years is the contract? If not, for how many years does KU expect to provide NITS to Paducah and Princeton, or to someone acting on their behalf, and explain why there is no long-term contractual arrangement?
- A-6. Yes. The NITS request by KMPA was for 20 years.

**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

**Response to Commission Staff's Second Data Request  
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**Question No. 7**

**Witness: Edwin R. Staton**

- Q-7. Refer to Item 12 of Commission Staff's First Information Request. Based upon horizontal measurements, how close will the relocated mobile home be to the actual transmission line, and how close will the relocated mobile home be to the nearest transmission tower?
- A-7. The relocated mobile home will not be closer than 75' from the new transmission centerline or 67' to the nearest transmission structure. It should be noted that the exact location of the relocated mobile home has not been determined, but it will be relocated off the proposed KU easement.

**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

**Response to Commission Staff's Second Data Request  
Dated February 2, 2011**

**Question No. 8**

**Witness: Edwin R. Staton**

- Q-8. State the total amount of KU's 2010 billings for NITS to Paducah and Princeton or to someone acting on their behalf. Assuming that the proposed transmission line is constructed at the estimated cost of \$17 million, provide an estimate of the amount of increase in KU's annual billings for NITS to Paducah and Princeton, or to someone acting on their behalf, due to a combination of this additional transmission investment and the additional power transmitted to them.
- A-8. KU's 2010 billings for NITS to Paducah and Princeton was \$1,502,373.01. The cost of the entire project, including direct assignment facilities (the cost of which is paid for directly by Paducah and Princeton) and network upgrades, is estimated to be approximately \$15.2 million for the proposed line, rather than the \$17 million cited in the question. *See* Direct Testimony of Edwin R. Staton filed on November 23, 2010, pp. 5-6. Assuming the cost to KU of the project is an estimated \$11.5 million (\$15.2 million less \$3.7 million customer payment), the LG&E/KU formula rate for network transmission service would increase 0.018 cents/kW/month or by 2.5%. Additionally, Paducah and Princeton's peak load, on which network transmission service billings are based, would increase from 125 MW to 170MW. Due to these changes, the total annual billings to Paducah and Princeton would increase by an estimated \$286,913, from \$1,502,373.01 to an estimated \$1,789,286. Under the FERC approved Amended Agreement Among Certain Interveners and Applicants Regarding Applicants' Withdrawal from the Midwest ISO, dated July 21, 2006, however, Princeton and Paducah receive a credit to their KU billings for certain costs Princeton and Paducah incur to purchase power from the Midwest ISO. Such credits are designed to shield Princeton and Paducah from "pancaking" of transmission charges that was deemed to result from LG&E/KU's exit from the Midwest ISO in 2006. In 2010, the application of this contractual obligation resulted in a net payment to Paducah and Princeton of \$4,748,210. If the transmission line cost of \$15.2 million and increase in peak load to 170MW are included, the net payment to Paducah and Princeton would decrease to an estimated \$4,461,297.

**KENTUCKY UTILITIES COMPANY**

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**Response to Commission Staff's Second Data Request  
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**Question No. 9**

**Witness: Edwin R. Staton**

- Q-9. Refer to page 5 of the Report of Focused Review dated January 6, 2011. In the Power Flow Analyses, the information utilized in the study is now approximately three years old. Explain any changes that have occurred since that date that may affect any of the conclusions contained in the analyses.
- A-9. There have not been any significant changes in the area that would affect the outcome of the previous study. The following changes have been made to the Transmission System in this area since the original Power Flow Analyses were completed:
- A 5% reactor was installed at Grahamville in the Grahamville to DOE C33 161 kV line.
  - The Grahamville to Coleman Road Tap section of the Grahamville to South Paducah 161 kV line was rebuilt with 1272 MCM ACSR conductor.
  - Load forecast information has been updated and is slightly lower for the Summer peak seasons.

**KENTUCKY UTILITIES COMPANY**

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**Response to Commission Staff's Second Data Request  
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**Question No. 10**

**Witness: Edwin R. Staton**

- Q-10. Provide the complete load flow studies that show the results of the study utilizing the load flow one-line diagram (flow chart) with indication of line flow and line ratings.
- A-10. The requested diagrams are considered confidential and will be the subject of a Petition for Confidential Protection.

**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

**Response to Commission Staff's Second Data Request  
Dated February 2, 2011**

**Question No. 11**

**Witness: Edwin R. Staton**

Q-11. What are the results of this study for base and contingency conditions if the most updated or current load flow model is utilized?

A-11. The requested study is considered confidential and will be the subject of a Petition for Confidential Protection.



**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

**Response to Commission Staff's Second Data Request  
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**Question No. 12**

**Witness: Edwin R. Staton/Counsel**

Q-12. Does either Princeton or Paducah, as members of the Kentucky Municipal Power Agency, have any future obligations to purchase power from Prairie State, Smithland, Cannelton, or any of American Municipal Power's other generation projects? If so, describe and include copies of any contracts.

A-12. KU has been advised by representatives of Princeton and Paducah that the only purchase power obligation that Princeton or Paducah have from a generation project "as members of the Kentucky Municipal Power Agency" ("KMPA") is each utility's Power Sales Agreement with KMPA (described below) relating to the Prairie State project. All of the other power purchase obligations arise from contracts pertaining to American Municipal Power, Inc. ("AMP") hydroelectric projects between AMP and each of the utilities. KMPA is not a party to any of those hydro contracts.

In relation to the Prairie State Project, KU has been advised that KMPA is a joint public agency created in 2005 pursuant to an Interlocal Cooperation Agreement between its only two members, the Electric Plant Boards of the Cities of Paducah and Princeton. At the request of its members, in 2007, KMPA acquired a 7.82% undivided ownership interest in the Prairie State Project. Through KMPA's participation in the Prairie State Project, Paducah and Princeton have sought to provide for their respective long-term baseload power and energy requirements. KMPA's share of the Prairie State Project's contractual capability is 124 MW.

In 2007, KMPA entered into separate Project Power Sales Agreements with Paducah and Princeton setting forth the rights and obligations of KMPA and its members with respect to the Prairie State Project. Under the respective Power Sales Agreements, Paducah is obligated to purchase from KMPA a 104 MW share (83.87%) of the Prairie State contractual output and Princeton is required to purchase a 20 MW share (16.13%) of the same. Each of the Power Sales Agreements is a "take or pay" agreement under which each member has agreed to pay for its portion of KMPA's share of the Prairie State Project at rates sufficient to enable KMPA to recover all of its costs incurred with respect to the Project.

Thus, Paducah and Princeton are each obligated to pay for their respective portions of the Prairie State Project whether or not the Project is completed or operable and whether or not the Project's output is interrupted, curtailed or terminated in whole or in part. In addition, the Power Sales Agreements provide for, among other things, KMPA to act as the agent on behalf of Paducah and Princeton in obtaining and paying for transmission, ancillary and other related services required to deliver the output of the Prairie State Project to the two members.

In relation to the AMP hydroelectric power sales contracts, KU has been advised that Paducah and Princeton have each elected to participate in several of the hydroelectric projects under development on the Ohio River by AMP. KMPA is not a participant in any of AMP's hydroelectric projects.

Phase I of AMP's hydroelectric developments includes projects at three sites on the Ohio River having respective estimated capacities as follows: Cannelton Locks and Dam (84 MW), Willow Island Locks and Dam (44 MW), and Smithland Locks and Dam (76 MW). AMP is the owner of the Phase I projects and is responsible for their development and financing. Paducah and Princeton have joined 77 other participants in signing a Power Sales Contract Regarding the American Municipal Hydroelectric System dated as of November 1, 2007, under which each participant is required to make monthly payments to AMP in amounts equal to the participant's proportional share of the project to cover AMP's expenses in developing and operating the project. Paducah's portion of the Phase I project's output and cost is equivalent to a 7.55 MW share of the contractual capacity of 208 MW; Princeton's portion of the same is equivalent to a 1.45 MW share. Each participant's obligation to make payments pursuant to the Power Sales Contract is an unconditional "take-or-pay" obligation of such participant.

Paducah and Princeton are also participants in Phase II of AMP's hydroelectric developments which includes projects on the Ohio River having estimated capacities as follows: Meldahl Locks and Dam (105 MW) and Greenup Locks and Dam (34 MW). A total of 48 participants, including Paducah and Princeton, have executed a Power Sales Contract Regarding the Meldahl Hydroelectric Project dated as of March 1, 2009, and a Power Sales Contract Regarding the Greenup Hydroelectric Facility dated as of November 1, 2009. Paducah's share of the output and expenses of the Meldahl piece of AMP's Phase II is equivalent to 4.53 MW of the contractual capacity and Princeton's share is equivalent to 0.87 MW of same. Paducah's share of the output and expenses of the Greenup piece of AMP's Phase II is equivalent to 3.02 MW of the contractual capacity and Princeton's share is equivalent to 0.58 MW of same. As with Phase I, each participant's obligation to make payments pursuant to the Phase II Power Sales Contracts is an unconditional "take-or-pay" obligation of such participant.

The special contractual arrangements made by TVA to supply up to a certain amount of interruptible power during the summer of 2010 is no longer in force. At this point, TVA has no legal or contractual obligation to provide such power to Paducah for the summer of 2011, but Paducah is hopeful that arrangements with TVA can be made for the upcoming summer months, if necessary, and TVA has the capacity.

Finally, KU states that the information provided above, including the information provided relating to AMP, has been provided to it by Paducah and Princeton. However, due to stated confidentiality and non-disclosure obligations, Paducah and Princeton have not provided any contracts themselves. Thus, KU is not in a position to provide copies of any such contracts.

**KENTUCKY UTILITIES COMPANY**

**CASE NO. 2010-00164**

**Response to Commission Staff's Second Data Request  
Dated February 2, 2011**

**Question No. 13**

**Witness: Lonnie E. Bellar**

Q-13. Assuming that the proposed transmission line is constructed at the estimated cost of \$17 million, provide a schedule showing the calculation of KU's annual revenue requirement for this investment, based on the cost of equity and debt utilized in KU's last rate case.

A-13. Below is the annual revenue requirement assuming the proposed project cost to KU is \$11.5 million (\$15.2 million<sup>1</sup> less \$3.7 million customer payment). Utilizing the 10.50% cost of equity and cost of debt as of March 31, 2010 from KU's last rate case, the transmission line investment along with the depreciation expense has a revenue requirement of \$2.4 million for KU. This was determined in a similar manner as revenue requirements are determined in a base rate case. However, individual investments are not isolated when determining revenue requirements for establishing base rates.

**Transmission Line Investment**

**(\$ Millions)**

	<u>KU</u>
1 Transmission Line Capital Spend	11.5
2 Total Cost of Capital @ 10.50% ROE	<u>7.78%</u>
3 Net Return on Capital (Line 3 x Line 4)	.9
4 Gross Up Revenue Factor	<u>0.6281</u>
5 Revenue Requirement for Capital Spend (Line 3 / Line 4)	1.4
6 Depreciation Expense @ 1.79%	<u>0.2</u>
7 Total Revenue Requirement (Line 5 + Line 6)	<u><u>1.6</u></u>

<sup>1</sup> KU estimates it will cost \$3.7 million to construct the selected transmission line. The cost of the entire project, including direct assignment facilities and network upgrades is approximately \$15.2 million for the proposed line, rather than the \$17 million cited in the question. See Direct Testimony of Edwin R. Staton filed on November 23, 2010, pp. 5-6.