

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of the 2009 Resource Plan of            )  
KCP&L Greater Missouri Operations Company )       Case No. EE-2009-\_\_\_\_  
Pursuant to 4 CSR 240-22                                )

**APPLICATION FOR WAIVERS CONCERNING  
THE 2009 INTEGRATED RESOURCE PLAN SUBMISSION OF  
KCP&L GREATER MISSOURI OPERATIONS COMPANY**

Pursuant to 4 C.S.R. 240-2.060 and -22.080(11), KCP&L Greater Missouri Operations Company (“KCP&L-GMO”) hereby respectfully submits to the Missouri Public Service Commission (“Commission”) an application (“Application”) for waivers concerning certain of the Commission’s Integrated Resource Plan (“IRP”) reporting requirements, as set forth in Chapter 22 of the Commission’s regulations. Good cause exists for such waivers. In support of its Application, KCP&L-GMO offers as follows:

1.       KCP&L-GMO is a Missouri corporation with its principal office and place of business at 1201 Walnut, Kansas City, Missouri 64106-2124. KCP&L-GMO is primarily engaged in the business of generating, transmitting, distributing, and selling electric energy in portions of northwestern Missouri. KCP&L-GMO is an electrical corporation and public utility as defined in Mo. Rev. Stat. § 386.020 (2000). KCP&L-GMO provided its certificate authorizing it to do business in Missouri as a foreign corporation in Case No. EN-2009-0164. That certificate is incorporated herein by reference pursuant to 4 CSR 240-2.060(G).

2.       KCP&L-GMO holds Certificates of Convenience and Necessity from the Commission to transact business as an electric public utility in certain areas of the State of Missouri and is principally engaged in the generation, transmission, distribution and sale of electric power and energy. KCP&L-GMO has no pending action or final unsatisfied judgments

or decisions against it from any state or federal agency or court that involve customer service or rates, which has occurred within three years of the date of this Application. In addition, no annual report or assessment fees are overdue.

3. In addition to undersigned counsel, pleadings, notices, orders and other correspondence and communications concerning this Application should be addressed to:

Lois J. Liehti  
Manager, Regulatory Affairs  
Kansas City Power & Light Company  
1201 Walnut – 13<sup>th</sup> Floor  
Kansas City, Missouri 64106  
Phone: (816) 556-2612  
Fax: (816) 556-2110  
E-mail: [Lois.Liehti@kcpl.com](mailto:Lois.Liehti@kcpl.com)

4. On February 5, 2007, KCP&L-GMO submitted its compliance filing with Chapter 22 of the Commission's regulations concerning KCP&L-GMO's resource planning. The Commission assigned Case No. EO-2007-0298 to that proceeding. KCP&L-GMO submitted a supplemental filing on October 2, 2007 to provide additional information and clarify certain aspects of its original filing.

5. On June 19, 2007, the Staff of the Commission, Office of Public Counsel, the Missouri Department of Natural Resources, and Dogwood Energy, LLC submitted reports concerning the adequacy of KCP&L-GMO's resource planning submissions. On November 1, 2007, those parties and KCP&L-GMO submitted a Non-Unanimous Stipulation and Agreement to resolve the alleged deficiencies referenced in the June 19 reports. The Stipulation and Agreement also provided that KCP&L-GMO would accelerate its next resource planning submission to August 5, 2009. The Commission approved the Stipulation and Agreement by order issued February 26, 2008.

6. KCP&L-GMO hereby requests the waivers listed in Schedule 1 concerning load analysis and forecasting (4 CSR 240-22.030); supply-side resource analysis (4 CSR 240-22.040); demand-side resource analysis (4 CSR 240-22.050); and risk analysis and strategy selection (4 CSR 240-22.070). The rationale for the need for each specific waiver is also provided in Schedule 1. KCP&L-GMO does not anticipate seeking any waivers related to integrated resource analysis (4 CSR 240-22.060). No public utility will be affected by the waivers sought herein.

7. Good cause exists for the waivers requested herein. While preparing the IRP submission and as the result of discussing issues with Staff, OPC, MDNR, and Dogwood, KCP&L-GMO identified elements of data or presentations of that data that will not fully comply with the technical requirements of the IRP rules. KCP&L-GMO believes that the alternative data and presentations it proposes are consistent with the intent of the applicable portions of the IRP rules and will result in more useful information. Moreover, KCP&L-GMO believes the information it will provide on August 5, 2009 as a result of the waivers sought herein will be more useful to the Commission and other interested parties than the information required under Chapter 22 of the Commission's regulations.

8. For the foregoing reasons, KCP&L-GMO respectfully requests that the Commission waive certain of its IRP requirements, as set forth herein and in Schedule 1, for KCP&L-GMO's August 5, 2009 submission. The waivers requested herein are consistent with the policy objectives of the Commission's IRP regulations and will result in the submission of data that is more useful to the Commission and other interested parties. This waiver request is only intended to apply to KCP&L-GMO's August 5, 2009 submission. If the Company

determines that waivers are necessary for subsequent IRP-related submissions, it will seek separate authorization for such waivers at that time.

Respectfully submitted,

/s/ Curtis D. Blanc

Curtis D. Blanc (Mo. Bar No. 58052)  
Kansas City Power & Light Company  
1201 Walnut – 20<sup>th</sup> Floor  
Kansas City, Missouri 64106  
Phone: (816) 556-2483  
Fax: (819) 556-2787  
Email: [Curtis.Blanc@kcpl.com](mailto:Curtis.Blanc@kcpl.com)

**Counsel for  
KCP&L Greater Missouri Operations Company**

Dated: December 4, 2008

## **CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing Application was served on all counsel of record either by electronic mail or by first class mail, postage prepaid, on this 4<sup>th</sup> day of December 2008.

/s/ *Curtis D. Blanc*

Curtis D. Blanc

# AFFIDAVIT

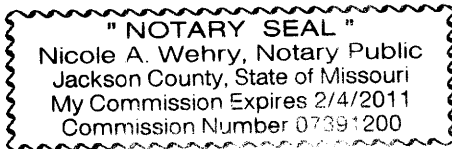
State of Missouri     )  
                                  ) ss  
County of Jackson    )

I, Lois Liechti, having been duly sworn upon my oath, state that I am the Manager, Regulatory Affairs of Kansas City Power & Light Company ("KCP&L"), that I am duly authorized to make this affidavit on behalf of KCP&L, and that the matters and things stated in the foregoing application and appendices thereto are true and correct to the best of my information, knowledge and belief.

Lois Liechti  
Lois Liechti

Subscribed and sworn before me this 4<sup>th</sup> day of December 2008.

Nicole A. Wehry  
Notary Public



# **KCP&L GREATER MISSOURI OPERATIONS COMPANY 2009 UTILITY RESOURCE FILING WAIVER REQUESTS PURSUANT TO 4 CSR 240, CHAPTER 22**

## **Waiver Requests Related To:**

### **Load Analysis and Forecasting**

#### **4 CSR 240-22.030**

#### **Waiver Request 1: 4 CSR 240.22.030(1)(D)1.**

**Current Requirement:** The development of actual and weather-normalized monthly class and system energy usage and actual hourly net system loads shall start from January 1982 or for the period of time used as the basis of the utility's forecast, whichever is longer.

**Proposed Alternative:** The development of actual and weather-normalized monthly class and system energy usage shall start from January 1994 for the service territory formerly known as Aquila Networks – MPS and January 1996 for the service territory formerly known as Aquila Networks – L&P.

**Rationale:** Consistent historic monthly and class system energy usage by Class Cost Of Service level detail back to 1982 is not available, and therefore KCP&L Greater Missouri Operations Company ("KCP&L-GMO") cannot provide these data. For the purposes of this requirement, the current usage data, spanning more than 12 years, is appropriate for forecasting. This data provides more than 144 monthly observations, which is sufficient to obtain statistically significant calibration coefficients in the models.

**Waiver Request 2: 4 CSR 240.22.030(1)(D)2.**

**Current Requirement:** Estimated actual and weather-normalized class and system monthly demands at the time of the system peak and weather normalized hourly system loads shall start from January 1990 or for the period of time used as the basis of the utility's forecast of these loads, whichever is longer.

**Proposed Alternative:** Estimated actual and weather-normalized system monthly demands at the time of the system peak and weather normalized hourly system loads shall start from January 1995. Estimated actual and weather-normalized class monthly demands at the time of the system peak and weather normalized hourly system loads shall start from January 2002.

**Rationale:** Consistent historic actual and weather-normalized system monthly demands at the time of the system peak and weather normalized hourly system loads is available only as far back as 1995. Class cost of service level hourly loads, which are computed with load research data, are available only back to January 2002. Customer level load research data is available prior to 2002, but it has not been compiled into class cost of service level hourly loads.

.



**Waiver Request 3: 4 CSR 240.22.030(3)(B)2.**

**Current Requirement:** Estimates of end-use energy and demand. For each end-use, the utility shall estimate end-use monthly energies and demands at time of the monthly system peaks and shall calibrate these energies and demands to equal the weather-normalized monthly energies and demands at the time of monthly peaks for each major class for the most recently available data.

**Proposed Alternative:** For each major end-use, defined as heating, cooling and other, KCP&L-GMO will estimate end-use monthly energies and demands at time of the monthly system peaks and shall calibrate these energies and demands to equal the weather-normalized monthly energies and demands at the time of monthly peaks for each major class for the most recently available data.

**Rationale:** KCP&L-GMO's forecasting models buildup an end-use forecast for heating, cooling, and other end uses, which are then calibrated to monthly sales data using a statistically adjusted end-use ("SAE") approach.

In the residential sector, the end-use forecast is constructed from projections of appliance stocks, unit energy consumptions, appliance standards, and building characteristics. The other end use is the sum of end-use projections for electric water heaters, clothes dryers, clothes washers, dishwashers, ovens, cook tops, refrigerators, freezers, and lighting. KCP&L-GMO will use its own measures of appliance ownership from its residential appliance saturation survey. These end-use projections will capture expected trends in appliance ownership and efficiency.

In the commercial and industrial sectors, the end-use projections for heating, cooling, and other end uses are constructed from the Department of Energy's estimates of end-use floor space shares, end-use energy use per square foot, and efficiency trends for appliances and buildings. The other end use is the sum of energy use for lighting, office equipment, refrigeration equipment, cooking equipment, electric water heating and miscellaneous equipment. KCP&L-GMO measures electric space heating saturations as

the percentage of customers on an electric space heating rate and projects penetrations and conversions based on energy price forecasts.

The SAE model calibrates the three end uses, heating, cooling and other, to KCP&L-GMO's monthly kwh sales data.

**Waiver Request 4: 4 CSR 240.22.030(4)(A).**

**Current Requirement:** Load profiles for each day type shall be developed for each end use, for each major class and for the net system load.

**Proposed Alternative:** Load profiles for each day type shall be developed for each major end use, for each major class, and for the net system load, where major end use is defined as heating, cooling, and other.

**Rationale:** KCP&L-GMO's forecasting models buildup an end-use forecast for heating, cooling, and other end uses, which are then calibrated to monthly sales data using an SAE approach. Please see Waiver Request 3 for details concerning the buildup process. Load profiles are then required for these major calibrated end uses to forecast hourly loads and peaks.

**Waiver Request 5: 4 CSR 240.22.030(4)(B).**

**Current Requirement:** For each day type, the estimated end-use load profiles shall be calibrated to sum to the estimated major class load profiles and the estimated major class load profiles shall be calibrated to sum to the net system load profiles.

**Proposed Alternative:** The estimated major class load profiles shall be calibrated to sum to the net system load profiles.

**Rationale:** KCP&L-GMO's forecasting models buildup an end-use forecast for heating, cooling, and other end uses, which are then calibrated to monthly sales data using an SAE approach. Please see Waiver Request 3 for details concerning the buildup process. Load profiles are required for these major end uses to forecast hourly loads and peaks.

**Waiver Request 6: 4 CSR 240.22.030(5)(B)2.B.**

**Current Requirement:** End-use detail. For each major class and for each end-use, the utility shall forecast both monthly energy use and demands at time of the summer and winter system peaks.

**Proposed Alternative:** End-use detail. For each major class and for each major end use, the utility shall forecast both monthly energy use and demands at time of the summer and winter system peaks. Major end uses are defined as heating, cooling, and other.

**Rationale:** KCP&L-GMO's forecasting models buildup an end-use forecast for heating, cooling, and other end uses, which are then calibrated to monthly sales data using an SAE approach. Please see Waiver Request 3 for details concerning the buildup process. These forecasts by major end-use then drive our forecasts of hourly loads and peak demands.

**Waiver Request 7: 4 CSR 240.22.030(8)(B)2.**

**Current Requirement:** The plots for the forecast period shall show each end-use component of major class coincident demands per unit and total class coincident demands for the base-case forecast.

**Proposed Alternative:** The plots for the forecast period shall show each major end-use component of major class coincident demands per unit and total class coincident demands for the base-case forecast. Major end-use is defined as heating, cooling, and other.

**Rationale:** KCP&L-GMO's forecasting models buildup an end-use forecast for heating, cooling, and other end uses, which are then calibrated to monthly sales data using an SAE approach. Please see Waiver Request 3 for details concerning the buildup process.

**Waiver Request 8: 4 CSR 240.22.030(8)(E)1.**

**Current Requirement:** The plots shall show each end-use component of the hourly load profile.

**Proposed Alternative:** The plots shall show each major end-use component of the hourly load profile. Major end use is defined as heating, cooling, and other.

**Rationale:** KCP&L-GMO's forecasting models buildup an end-use forecast for heating, cooling, and other end uses, which are then calibrated to monthly sales data using an SAE approach. Please see Waiver Request 3 for details concerning the buildup process.

**WAIVER REQUESTS RELATED TO  
SUPPLY-SIDE RESOURCE ANALYSIS**

**4 CSR 240-22.040**

**Waiver Request 9: 4 CSR 240.22.040(2)(B)2. and (2)(B)4.**

**Current Requirement:** The utility shall specify at least two (2) levels of mitigation that are more stringent than existing (environmental) requirements.

**Proposed Alternative:** KCP&L-GMO will provide at least two levels of mitigation where this approach is applicable. For probable environmental requirements that do not lend themselves to varying levels of mitigation, KCP&L will explain how the requirements and costs were determined and include an explanation of why two levels of mitigation are not applicable.

**Rationale:** Cooling towers are an example of potential requirements that do not lend themselves to varying levels of mitigation. KCP&L-GMO believes that cooling towers would either be required or would not be required.



**Waiver Request 10: 4 CSR 240.22.040(3) and (6)**

**Current Requirement:** The analysis of supply side resources shall include a thorough analysis of existing and planned interconnected generation resources. The purpose is to ensure that the transmission network is capable of reliably supporting the supply resource options under consideration.

**Proposed Alternative:** KCP&L-GMO will include projected transmission upgrade costs on a \$/kW basis for each technology that would interconnect to the transmission system. The applied cost will be the average transmission costs associated with recent projects or other identifiable project-specific transmission costs. In addition, KCP&L-GMO may develop factors to apply to various technology types. The factors would be an attempt to demonstrate potential differences in the expected range of costs for different technologies. For example, the remote location of some technologies, *e.g.*, wind, may require a higher projected transmission cost. If such factors are applied to specific technologies, KCP&L-GMO will provide an explanation of the factors developed and the reasons they are applied.

**Rationale:** The Southwest Power Pool (“SPP”) process for providing transmission interconnection costs does not allow a utility to economically or reliably identify costs for a wide range of potential new generating resources and does not provide a final cost until a utility commits to a project.

**Waiver Request 11: 4 CSR 240.22.040(8)(A) and (8)(D)2.**

**Current Requirement:** Fuel price forecasts shall be obtained from a consulting firm with specific expertise in detailed fuel supply and price analysis and each forecast shall consider several specific factors. The utility shall consider the accuracy of previous forecasts as an important criterion in selecting providers of fuel price forecasts. The provider of each forecast shall be required to identify critical factors that drive the commodity price forecast, a range of forecasts and an associated subjective probability distribution that reflects that uncertainty.

**Proposed Alternative:** KCP&L-GMO will develop statistically averaged price forecasts for fuel and emission allowance commodities based on various sources of price forecast data. The various commodity price forecasts used in the price forecasts shall be obtained from independent consulting firms and/or government agencies that have expert knowledge and experience with the commodity under consideration. KCP&L-GMO will use the set of commodity price forecasts to develop probability distributions for each.

KCP&L-GMO will provide a list of the forecast providers utilized to develop the price forecasts. To the extent allowable under copyright protection and confidentiality agreements, KCP&L-GMO will provide a comparison of individual forecasts to the average forecasts developed for the IRP. Also to the extent allowable under copyright protection and confidentiality agreements KCP&L-GMO will identify those fundamental factors it believes are critical to the separate forecasts from which KCP&L-GMO calculates a statistical average.

**Rationale:** In evaluating the accuracy of forecasts to comply with the requirement summarized above, KCP&L-GMO has determined that of the various forecasts it has reviewed, no one forecast provider always outperforms all others. On the other hand, the combination or statistically averaged forecasts consistently is more accurate than most of the forecasts that it represents. In any one year, some forecasting services will do better than the average in terms of predicting the correct outcome, these 'top performers' will vary from year to year and are very difficult to identify in advance. This is consistent with academic research showing that forecast combinations have been found in empirical

studies to produce better forecasts on average than methods based on the ex-ante best individual forecasting model<sup>1</sup>. Moreover, research such as that conducted by Huiyu Huang and Tae-Hwy Lee of University of California, Riverside's Department of Economics and reported in a January 2007 paper, "To Combine Forecasts or to Combine Information?" that combining forecasts is better than schemes that combine information<sup>2</sup>.

---

<sup>1</sup> See Allan Timmermann of University of California, San Diego's paper, "Forecast Combinations" at <http://rady.ucsd.edu/faculty/directory/timmermann/docs/forecast-combinations.pdf>

<sup>2</sup> See <http://www.economics.ucr.edu/papers/papers07/07-02.pdf>

**WAIVER REQUESTS RELATED TO  
DEMAND-SIDE RESOURCE ANALYSIS  
4 CSR 240-22.050**

**Waiver Request 12: 4 CSR 240.22.050(2)(C)1.**

**Current Requirement:** For each year of the planning horizon and for each avoided cost period, the utility shall calculate the avoided direct running cost per kWh.

**Proposed Alternative:** Rather than utilizing the avoided direct running cost for valuing total avoided costs associated with DSM, KCP&L-GMO proposes to utilize the forecasted market price of energy as calculated in the DSMore model. The forecasted market price of energy is based upon Midas hourly market price forecasts, which are input into DSMore as the basis for additional risk calculations performed in the DSMore model.

**Rationale:** Customer end-use energy savings will either be available for sale into the wholesale market or will reduce the need to purchase energy from the wholesale market. Use of the DSMore model provides a detailed evaluation of hourly impacts rather than the broader “cost period” evaluation called for in the IRP rules. Due to this added detail, KCP&L-GMO believes utilization of energy market pricing and the DSMore model provides a more accurate value for the avoided energy costs associated with DSM programs.

**Waiver Request 13: 4 CSR 240.22.050(2)(C)2. and (2)(D).**

**Current Requirement:** The utility shall calculate and document the avoided capacity costs per kW-year for each year of the planning horizon. The calculation shall include the cost of any new generation, transmission and distribution facilities that are delayed [by at least one (1) year] or avoided because of the specified load decrement.

**Proposed Alternative:** KCP&L-GMO will utilize the levelized cost of peaking capacity as the avoided supply-side capacity cost. For peaking facilities, the levelized cost is based on a 25-year life of the asset. Levelized costs represent the equal annual payments necessary to return the total invested capital for installing a new generating plant over its economic life (assumed to be 25-years for a peaking unit) including a return on the capital. The levelized cost will be based upon a peaking unit on a greenfield site.

**Rationale:** As written, the rule appears to contain conflicting instructions for assigning avoided “capacity” values as shown below:

4 CSR 22.050(2)(C)2.B: “(the utility) shall allocate a nonzero portion of the annualized avoided capacity cost to each of the (avoided cost) periods in which capacity was utilized”.

4 CSR 22.050(2)(D)3: “The avoided demand cost for Non-demand periods shall be zero”.

Therefore KCP&L-GMO will meet 4 CSR 22.050(2)(D)1 and (2)(D)5, which require the smaller of avoided generation capacity for the demand period or peaking capacity.

**Waiver Request 14: 4 CSR 240.22.050(3)(F) and (3)(G)**

**Current Requirement:** 4 CSR 240-22.050(3)(F) and (3)(G) refer to “the probable environmental benefits test.”

**Proposed Alternative:** KCP&L-GMO will use the software package, DSMore, which was developed by Integral Analytics specifically for the evaluation of end-use energy efficiency measures.

DSMore provides all the standard energy efficiency cost effectiveness tests including the participant test, the utility test, the ratepayer impact test, the total resource test, societal test, plus a long run option value test. We propose to use the Societal Benefits Test (“SBT”) for initial end-use measure screening. KCP&L-GMO will not include administration, marketing and delivery cost in the SBT used in the initial screening of end-use measures. Therefore, the SBT calculated through DSMore will equate to the required Probable Environmental Benefits Test (“PEBT”) specified in the IRP Rules.

**Rationale:** The SBT is equivalent to the PEBT if the marketing, administration, and delivery costs are not included in the SBT calculation.

$$\text{SBT} = (\text{Total Avoided Costs} + \text{Total Probable Environmental Benefits}) / (\text{Administration cost} + \text{Marketing cost} + \text{Delivery cost} + \text{Incentives paid to participant}) + (\text{Participant Gross Cost} - \text{Incentives received by utility})$$

$$\text{PEBT} = (\text{Total Avoided Costs} + \text{Total Probable Environmental Benefits}) / (\text{Incentives paid to participant}) + (\text{Participant Gross Cost} - \text{Incentives received by utility}).$$

**WAIVER REQUESTS RELATED TO  
RISK ANALYSIS AND STRATEGY SELECTION  
4 CSR 240-22.070**

**Waiver Request 15: 4 CSR 240.22.070(4)**

**Current Requirement:** The decision-tree diagram for all alternative resource plans shall include at least two (2) chance nodes for load growth uncertainty over consecutive subintervals of the planning horizon. The first of these subintervals shall be not more than ten (10) years long.

**Proposed Alternative:** KCP&L-GMO is requesting a complete waiver from this requirement in its entirety. Load growth uncertainty would be evaluated in the load analysis process of the IRP and therefore included in the probabilistic assessment required under 4 CSR 240-22.070(5).

**Rationale:** In 4 CSR 240-22.030(7), the utility is specifically required to develop a high and low case for load growth. The rule further requires that these cases shall be used in the sensitivity analysis in 4 CSR 240-22.070. In 4 CSR 240-22.070(2)(A), load growth risks are specifically required to be modeled as a high case and a low case.

Therefore, the requirements of rule 4 CSR 240-22.070(4) are unclear and are in opposition to the earlier stated rules.