BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the 2008 Resource Plan of Kansas City Power & Light Company pursuant to 4 CSR 240-22	)))	Case No. EE-2008-0034

STAFF REPORT

Comes now the Staff of the Missouri Public Service Commission (Staff) and files its Report regarding the Chapter 22 Electric Utility Resource Planning compliance filing made by Kansas City Power & Light Company (KCPL) on August 5, 2008. In support thereof, the Staff states as follows:

1. 4 CSR 240-22.080(5) provides that the Staff shall review each utility's compliance filing and shall file a report no later than 120 days after each utility's scheduled electric resource plan filing date that identifies, among other things, any deficiencies in the electric utility's compliance with the provisions of Chapter 22 of the Commission's rules.

2. 4 CSR 240-22.080(6) provides that the Office of the Public Counsel (Public Counsel) and any intervenor may file a report or comments no later than 120 days after each utility's scheduled electric resource plan filing date that identifies, among other things, any deficiencies in the electric utility's compliance with the provisions of Chapter 22 of the Commission's rules.

3. On November 19, 2008, the Staff, with the consent of all parties, filed a Motion For Extension Of Time requesting until January 8, 2009, to respond to the August 5, 2008 filing of KCPL.

4. On November 24, 2008, the Commission issued an Order Granting Extension Of Time, granting until January 8, 2009, for parties to file pursuant to 4 CSR 240-22.080(5) and (6).

5. The Staff Report accompanying this pleading, as Appendix A, identifies, among other things, deficiencies in KCPL's August 5, 2008 compliance filing relating to the provisions of Chapter 22 of the Commission's rules.

WHEREFORE, the Staff herewith files its Staff Report respecting its review of KCPL's August 5, 2008 compliance filing respecting the Commission's Chapter 22 Electric Utility Resource Planning rules.

Respectfully submitted,

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Certificate of Service

I hereby certify that copies of the foregoing have been mailed first class postage prepaid, hand-delivered, transmitted by facsimile, or electronically sent to all counsel of record this 8th day of January 2009.

/s/ Steven C. Reed

MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT ON

KANSAS CITY POWER & LIGHT COMPANY

INTEGRATED RESOURCE PLANNING
COMPLIANCE FILING

CASE NO. EE-2008-0034

January 8, 2009

JEFFERSON CITY, MISSOURI

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Summary of Staff Review

In the Non-Unanimous Stipulation And Agreement in Kansas City Power & Light Company's (KCP&L or Company) previous 4 CSR 240 Chapter 22 Electric Utility Resource Planning compliance filing (Case No. EO-2007-0008), KCP&L agreed to, among other things, file its next Chapter 22 filing on August 5, 2008. Staff has reviewed "Kansas City Power & Light Company's Integrated Resource Plan, Volumes 1 through 8" filed on August 5, 2008 (resource plan filing) and its December 24, 2008 "Submission by Kansas City Power & Light Company of Supplemental Information Concerning its Integrated Resource Plan for compliance with Chapter 22" (supplemental filing) and with the Non-Unanimous Stipulation And Agreement approved by the Commission in Case No. EO-2007-0008.

On August 3, 2007, KCP&L filed, in this case, its first request for waivers in connection with KCP&L's August 2008 resource plan filing. These waivers included ten requests from requirements of the Load Analysis and Forecasting rule, 4 CSR 240-22.030; one request from requirements of the Supply-Side Resources Analysis rule, 4 CSR 240-22.040; and four requests from requirements of the Demand–Side Resource Analysis rule, 4 CSR 240-22.050. A second request for waivers was filed on February 5, 2008, and included an additional three requests from the requirements of the Supply-Side Analysis rule and one additional request from the requirements of the Demand-Side Analysis rule. All waivers requested by KCP&L were granted by the Commission's Report and Orders of September 25, 2007 and March 20, 2008, respectively.

What follows in this report is a summary of KCP&L's preferred resource plan, Staff's overall view of KCP&L's filing, and a summary of the deficiencies along with Staff's proposed remedies to these deficiencies. This Report also details areas of concern respecting KCP&L's filing relating to the major components of resource planning that generally correspond with the requirements of rules 4 CSR 240-22.030 through 4 CSR 240-22.080 of the Electric Utility Resource Planning chapter.

Summary of KCP&L's Preferred Resource Plan

KCP&L developed twenty-six preliminary resource plans. The screening and selection process reduced this number to six plans based on lowest net present value of revenue requirement (NPVRR). The six plans were further reduced to two alternate plans that were also chosen by lowest NPVRR. These plans, Plan 19 and Plan 26, include the following resource additions to current KCP&L generation resources:

- Continuation of the Regulatory Energy Plan Demand Side Management (DSM) programs;
- Residential and "Aggressive" Commercial and Industrial Energy Efficiency programs as defined by KCP&L in Volume 5, Demand-Side Resource Analysis
- Addition of 100 MW of wind annually up to a total additional 400 MW
- 154 MW of Combustion Turbines (CTs) in 2029

The difference between the two alternative plans is the timing of the installation of wind farm facilities. Plan 19 initiates wind farm construction in 2009 and Plan 26 delays wind farm construction until 2012. Plan 26 has the lowest NPVRR; however, Plan 19 is chosen as the preferred plan. Plan 19 has a NPVRR that is $13 million greater than Plan 26. The reasons why Plan 19 was chosen over Plan 26 are:

- Firm pricing of 2009 wind farm construction is below costs modeled in the IRP process
- Future price increases on construction costs may erode some of the savings of Plan 26
- KCP&L models wind farms as having significant risk mitigation value under various Environmental Regulatory Scenarios
- It is advantageous to install wind sooner rather than later in order to take advantage of the production tax credit for as many years as possible.

Plan 19 also includes the recommendation to begin early stage development of a nuclear generation option.

A summary of KCP&L's preferred resource plan is shown in Table 1. This table shows that with this forecast and preferred plan, KCP&L estimates that it will not need additional capacity until 2026.

Table 1 - 1

KCPL Preferred Resource Plan
EE-2008-0034

A. System Generation Capacity	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Existing Generation	**4,051**	**4,089**	**4,089**	**4,107**	**4,101**	**4,094**	**4,094**	**4,094**	**4,094**	**4,098**	**4,098**	**4,098**	**4,098**
New Generation													
Iatan 2			465	465	465	465	465	465	465	465	465	465	465
Wind[1]		100	200	300	400	400	400	400	400	400	400	400	400
Combustion Turbines													
Total New Generation	**0**	**15**	**495**	**510**	**525**	**525**	**525**	**525**	**525**	**525**	**525**	**525**	**525**
Total Generation Capacity	**4,051**	**4,104**	**4,584**	**4,617**	**4,626**	**4,619**	**4,619**	**4,619**	**4,619**	**4,623**	**4,623**	**4,623**	**4,623**

B. Capacity Transactions	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Purchases	257	257	36	36	35	35	35	35	0	0	0	0	0
Total Sales	(50)	(75)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(200)	(175)	(150)
Net Transactions	**207**	**182**	**(164)**	**(164)**	**(165)**	**(165)**	**(165)**	**(165)**	**(200)**	**(200)**	**(200)**	**(175)**	**(150)**
Total System Capacity (A+B)	**4,258**	**4,286**	**4,420**	**4,453**	**4,461**	**4,454**	**4,454**	**4,454**	**4,419**	**4,423**	**4,423**	**4,448**	**4,473**

C. System Peaks & Reserves	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Peak Demands													
KCP&L Forecasted Peak	3,759	3,803	3,837	3,870	3,907	3,947	3,995	4,034	4,071	4,101	4,127	4,165	4,201
On-Going Demand Response	(140)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)
On-Going Energy Efficiency	(8)	(15)	(23)	(29)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)
New DSM / EE	(0)	(0)	(17)	(41)	(67)	(91)	(116)	(110)	(105)	(97)	(94)	(93)	(91)
Peak Forecast with DSM	**3,612**	**3,630**	**3,639**	**3,642**	**3,649**	**3,665**	**3,688**	**3,733**	**3,775**	**3,813**	**3,842**	**3,881**	**3,919**
Capacity Reserves (A+B-C)	**646**	**656**	**781**	**811**	**812**	**789**	**766**	**721**	**644**	**610**	**581**	**567**	**554**

D. Capacity Needs	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Capacity Reserves													
Capacity Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Required Capacity	**4,105**	**4,125**	**4,135**	**4,139**	**4,147**	**4,165**	**4,191**	**4,242**	**4,290**	**4,333**	**4,366**	**4,410**	**4,453**
Capacity Balance (A+B-D)	**153**	**161**	**285**	**314**	**314**	**289**	**263**	**212**	**129**	**90**	**57**	**38**	**20**

1. Wind 15% accreditation for each 100 MW

Table 1 - 2

KCPL Preferred Resource Plan
EE-2008-0034

A. System Generation Capacity	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total Existing Generation	**4,098**	**4,098**	**4,098**	**4,098**	**4,098**	**4,098**	**4,098**	**4,098**	**4,098**	**4,098**	**4,098**	**4,098**
New Generation												
Iatan 2	465	465	465	465	465	465	465	465	465	465	465	465
Wind[1]	400	400	400	400	400	400	400	400	400	400	400	400
Combustion Turbines									154	154	154	154
Total New Generation	**525**	**525**	**525**	**525**	**525**	**525**	**525**	**525**	**679**	**679**	**679**	**679**
Total Generation Capacity	**4,623**	**4,623**	**4,623**	**4,623**	**4,623**	**4,623**	**4,623**	**4,623**	**4,777**	**4,777**	**4,777**	**4,777**

B. Capacity Transactions	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total Purchases	0	0	0	0	0	0	0	0	0	0	0	0
Total Sales	(125)	(100)	(75)	(25)	0	0	0	0	0	0	0	0
Net Transactions	**(125)**	**(100)**	**(75)**	**(25)**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total System Capacity (A+B)	**4,498**	**4,523**	**4,548**	**4,598**	**4,623**	**4,623**	**4,623**	**4,623**	**4,777**	**4,777**	**4,777**	**4,777**

C. System Peaks & Reserves	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Peak Demands												
KCP&L Forecasted Peak	4,227	4,248	4,269	4,305	4,345	4,379	4,417	4,458	4,497	4,529	4,561	4,594
On-Going Demand Response	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)	(158)
On-Going Energy Efficiency	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)
New DSM / EE	(89)	(90)	(90)	(90)	(90)	(90)	(90)	(90)	(90)	(90)	(89)	(90)
Peak Forecast with DSM	**3,947**	**3,967**	**3,988**	**4,024**	**4,064**	**4,098**	**4,136**	**4,177**	**4,216**	**4,248**	**4,281**	**4,313**
Capacity Reserves (A+B-C)	**551**	**556**	**560**	**574**	**559**	**525**	**487**	**446**	**561**	**529**	**496**	**464**

D. Capacity Needs	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Capacity Reserves												
Capacity Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Required Capacity	**4,485**	**4,508**	**4,532**	**4,573**	**4,618**	**4,657**	**4,700**	**4,747**	**4,791**	**4,827**	**4,865**	**4,901**
Capacity Balance (A+B-D)	**13**	**15**	**16**	**25**	**5**	**(34)**	**(77)**	**(124)**	**(14)**	**(50)**	**(88)**	**(124)**

1. Wind 15% accreditation for each 100 MW

Results of Staff's Review

In its previous resource plan filing, KCP&L only did a comprehensive assessment of its needs through the time period set out in its regulatory plan (Case No. EO-2005-0329). This assessment consisted of an analysis of the impact of demand-side programs and wind resources on its supply-side plan. In this filing, KCP&L looks past the regulatory plan and includes in its analysis the demand-side programs and wind resources along with supply-side resources. In addition, the compliance filing in this case is a more comprehensive analysis for the twenty-year time period required by Chapter22 filings.

In its review of KCP&L's Load Analysis and Forecasting compliance filing, Staff noticed several instances of anomalies in the input data for KCP&L forecasting and/or weather normalization process. While KCP&L technically met the requirements of the Load Analysis and Forecasting rule, Staff is concerned that KCP&L did not provide an explanation of why it included the use of this data in its analysis or how it adapted its models to reduce the effect of these anomalies. In addition, Staff is concerned that the peak demand per customer forecast for the Missouri Manufacturing Class is too high.

Staff did find several deficiencies in KCP&L's Load Analysis and Forecasting compliance filing. These deficiencies included the lack of documentation and explanation of key variables and their characteristics, and deficiencies in the sensitivity analyses of the key driver variables used in the forecasts.

KCP&L did a comprehensive review of energy efficiency programs with the exception of one segment of the residential class: multifamily dwellings. Even though delivering energy efficiency programs to this segment of the residential housing market can be problematic, this is a sizable portion of KCP&L's residential class and energy-efficiency measures and programs should be analyzed for this segment of the residential class.

This filing also emphasizes evaluation of alternate rate structures and price responsive demand. KCP&L has a number of these programs tariffed and currently in effect which are not included within its description of existing demand-side end-use measures, and are not included in analysis of how to improve existing end-use measures. Additionally, KCP&L, by its own admission, "did not evaluate alternate rate structures" in its Demand-Side Resource Analysis filing. Staff recommends KCP&L provide an evaluation of its existing programs of this nature and provide recommendations by April 1, 2009, for improving such programs.

Staff did not find any deficiencies in KCP&L's Supply-Side Analysis or Integrated Resource Analysis filings.

Staff found three deficiencies and one concern in KCP&L's Risk Analysis and Strategy Selection filing. Several of these deficiencies are related to KCP&L's resource acquisition strategy, the lack of specific ranges for critical uncertain factors, the lack of contingency options being specified when the ranges are exceeded and the lack of a monitoring and reporting process for critical uncertain factors.

Finally, Staff found one deficiency related to a belated request filed on December 24, 2008, by KCP&L for cost recovery of demand-side Programs. KCP&L's request for separate cost recovery was not contained in its original filing. Staff is not aware of any discussions at any of the subsequent meetings with KCP&L regarding non-traditional ratemaking treatment of demand-side resource cost, thus making it inappropriate for KCP&L to include such a request in its supplemental filing.

List of Concerns

A. Gaps and inconsistencies in databases used in load analysis and forecasting.
B. Modeling inconsistencies.
C. KCP&L does not include the impact of price on the levels of demand-side programs in its risk analysis process required by 4 CSR 240-22.070(2)(K).

List of Deficiencies

1. **KCP& L did not provide documentation of the elasticities used in the statistically adjusted end-use (SAE) equations required by 4 CSR 240-22.030(5)(B)2.A.**
2. **KCP&L did not analyze or explain the significant differences between the forecasts and historical trends for use per unit as required by 4 CSR 240-22.030(5)(B)2.D.**
3. **KCP&L did not provide the net system load forecasts required by 4 CSR 240-22.030(5)(C).**
4. **KCP&L did not complete the sensitivity analysis required by 4 CSR 240-22.030(6).**
5. **KCP&L did not provide a summary of the sensitivity analysis required by 4 CSR 240-22.030(8)(C).**
6. **KCP&L does not consistently use the definitions of terms in 4 CSR 240-22.020 in its documentation of its demand-side analysis, leading to confusion.**
7. **KCP&L excluded energy-management measures from its screening of end-use measures required by 4 CSR 240-22.050(1).**

8. KCP&L excluded energy-management programs from its screening of demand-side programs required by 4 CSR 240-22.050(4).

9. KCP&L omitted all multifamily residential dwellings from consideration as required by 4 CSR 240-22.050(1)(B) [involving all decision makers] and 4 CSR 240-22.050(3) [cost effectiveness].

10. While KCP&L states that it prescreens end-use measures to see whether or not it should even perform a cost-benefit evaluation, but KCP&L does not list these end-use measures in its Resource Planning filing. 4 CSR 240-22.050(1) & previous stipulation, paragraph 19.

11. KCP&L did not provide an explanation or assumptions necessary to estimate future sulfur dioxide emission allowance prices required by 4 CSR 240-22.070(2)(H) Risk Analysis and Strategy Selection.

12. KCP&L did not set out the range of critical uncertain factors for which the preferred resource plan or a contingency option is appropriate required by 4 CSR 240-22.070(10)(C), (D).

13. KCP&L did not develop a process for monitoring and reporting on critical uncertain factors required by 4 CSR 240-22.070(10)(E).

14. KCP&L's request for nontraditional accounting procedures regarding DSM programs was filed out of time and does not meet the requirements of- 4 CSR 240-22.080(2).

4 CSR 240-22.030 Load Analysis and Forecasting

SUMMARY

This section of Staff's Report provides Staff's review of KCP&L's load analysis and energy and demand forecasts. In its review, Staff found some areas that seem to be inconsistent and are cause for concern. In other areas, Staff found KCP&L's report to be deficient in its analysis. In this section, Staff identifies these concerns and deficiencies for the Commission.

With respect to the Load Analysis and Forecasting rule, KCP&L requested waivers from specific provisions of the rule that were granted by the Commission. These waivers allowed KCP&L some flexibility in complying with all or part of the following sections:

4 CSR 240-22.030(1)(D)1.	Start date of historical energy data base
4 CSR 240-22.030(1)(D)2.	Start date of historical peak and hourly load data base
4 CSR 240-22.030(3)	Analysis of use per unit
4 CSR 240-22.030(3)(B)1.	Measures of stock of energy-using capital goods
4 CSR 240-22.030(3)(B)2.	Estimate of end-use energy and demand
4 CSR 240-22.030(4)(A)	Load profiles for class and for net system load
4 CSR 240-22.030(4)(B)	Calibrate class load profiles to net system load profiles
4 CSR 240-22.030(5)(B)2.B.	End-use detail
4 CSR 240-22.030(8)(B)2.	Plots of coincident demands showing end-use components
4 CSR 240-22.030(8)(E)1.	Plots of hourly load profiles with end-use components

CONCERNS

A. Gaps and inconsistencies in databases used in load analysis and forecasting. Forecasts can only be as good as the data that is input into the models. There are data gaps and inconsistencies in the forecasting database which KCP&L neither explained nor made adjustments for in its analysis. Some examples of these types of errors include:

- Tables 11 and 12, KCP&L Residential Appliance Saturation Surveys for Kansas and Missouri, respectively (Volume 3: Load Analysis and Forecasting Pages 21 and 22). These tables show an inconsistent progression of appliance saturation. Particularly for the data from the year 2000 that shows large swings in appliance purchase and abandonment when compared to 1998 and 2002. For example, Table 12 shows that, the surveys conducted in 1998, 2000 and 2002 reported the saturation rates of central air conditioners in Missouri to be 80%, 88% and 81% respectively.

- Plot H-25 Missouri & Kansas Street Light Private GWH Sales (Appendix 3.H Pages H-50 and H-51). The data and plots show negative Kansas Street Light Private GWH Sales in 2003 and an unexplained decrease in sales after 2003.

- Plot I-16 Missouri & Kansas Manufacturing Other KW Peak Demand Per Customer (Appendix I, Pages I-32 and I-33). Plots for the Missouri summer which is also the annual peak show a large dip in the actual and weather normalized peak in 2006.

- Plot L-34 KCP&L Manufacturing Primary Peak Day Loads by End-Use (Winter 2007) through Plot L-40 Manufacturing Primary Peak Day Loads by End-Use (Winter 2027, Appendix 3.L Pages L-34 through L-41) show an anomalous spike at hour 19, which becomes the peak hour for the winter.

B. Modeling inconsistencies. Plots for Missouri Manufacturing Other KW Peak Demand Per Customer (Plot I-16 Appendix 3.I pages I-32 and I-33) for the summer and year show the forecasted values to be significantly above the trend lines established by the historical data. The highest weather normalized data point appears to be the starting point for forecasted peaks for this customer class. This results in forecasted peaks for this class that may be too high.

DEFICIENCIES

1. KCP& L did not provide documentation of the elasticities used in the statistically adjusted end-use (SAE) equations required by 4 CSR 240-22.030(5)(B)2.A. KCP&L did not provide the values of the elasticities used in the SAE equations, did not explain why the values were chosen, and did not document the data source for the elasticities.

2. KCP&L did not analyze or explain the significant differences between the forecasts and historical trends for use per unit as required by 4 CSR 240-22.030(5)(B)2.D. KCP&L provided the major class forecasts and historical trends but did not provide documentation of its analysis.

3. KCP&L did not provide the net system load forecasts required by 4 CSR 240-22.030(5)(C). KCP&L did not provide a forecast of net system load profile for each year of the planning horizon.

4. KCP&L did not complete the sensitivity analysis required by 4 CSR 240-22.030(6). KCP&L performed a sensitivity analysis on the price of electricity but did not perform a sensitivity analysis on the real price of competing fuels and the economic and demographic factors identified in section (2) and subparagraph (5)(B)2.A.

5. KCP&L did not provide a summary of the sensitivity analysis required by 4 CSR 240-22.030(8)(C). Since the sensitivity analysis required in section (6) was not completed, the summary required in subparagraph (8)(C) is deficient.

4 CSR 240-22.040 Supply Side Resource Analysis

SUMMARY

This rule requires the electric utility to review supply-side resource options and determine cost estimates for each type of resource. Resource options are to be ranked based upon their relative annualized utility costs as well as their probable environmental costs. Resources which do not have significant disadvantages pass this pre-screening process and are to be included in the integrated resource analysis process used to select a preferred resource plan.

KCP&L reviewed nuclear, fossil fueled, and renewable energy resource options as well its transmission and distribution system options. KCP&L ranked thirty-nine technologies based on capital, fixed and variable cost estimates from Electric Power Research Institute (EPRI) for a high, base and low range of cost. These options were ranked based on a broad range of impacts from various technologies, probable environmental regulations and cost uncertainties. Some technologies were excluded from review because they are in the developmental stage and/or they lack adequate resources or geological features in this region required for implementation. KCP&L employed Ventyx (formerly Global Energy Decisions) to do a second prescreening of fifteen different options which passed the first prescreening using the latest available cost data, with the Capacity Expansion Module of the MIDAS model. A full discussion of the process and its results can be found in Volume 4 of KCP&L's filing. KCP&L's supply-side resource analysis results identified the potential cost effective technologies that were included in the integrated analysis.

KCP&L also hired Black & Veatch to evaluate efficiency, life extension, environmental enhancements and retirement scenarios of existing facilities. In addition, KCP&L evaluated its purchased power alternatives by issuing an RFP for purchased power agreements.

In case EO-2007-0008, KCP&L was a signatory to a stipulation and agreement in which they agreed to correct the supply-side deficiencies noted in that case and also that their transmission group would provide a "Transmission Submission" in its 2008 IRP filing. Staff believes they have complied with the supply-side section of the agreement. The "Transmission Submission" can be found in Volume 8 of this IRP filing.

Staff believes KCP&L's supply-side resource filing meets the supply-side requirements of 4 CSR 240-22.040.

DEFICENCIES

Staff did not find any deficiencies in KCP&L's supply-side resource filing.

4 CSR 240-22.050 Demand-Side Resource Analysis

SUMMARY

KCP&L's Demand-Side Resource Analysis filing in this Resource Plan includes many new ideas, and yet contains flaws, including those of terminology and a full understanding of what is to be included under the heading 'demand-side'.

The Company previously filed for certain waivers and received Commission approval related to 4 CSR 240-22.050(2)(C)1., (2)(C)2., (3), (3)(F), and (7).

The range of measures selected, evaluated, and screened by KCP&L include a variety of measures based on KCP&L's existing programs, best practices from other utilities, and consultant-provided ideas on how to improve certain existing programs.

KCP&L utilized the DSMore computer software to calculate avoided cost values and to estimate the value of possible demand-side end-use measures. Further, KCP&L has utilized experienced contractors to estimate the need for additional demand-side end-use measures.

DEFICENCIES

6. KCP&L does not consistently use the definitions of terms in 4 CSR 240-22.020 in its documentation of its demand-side analysis, leading to confusion. In Chapter 22, the Commission does not use the term "demand-side management" just as it does not use the term "supply-side management." However demand-side management (DSM) has become a common term when referring to energy efficiency and demand response programs in total. KCP&L uses the phrase "DSM" to mean multiple things within "Volume 5 – Demand-Side Resource Analysis", leading to unnecessary confusion. For example, "DSM" in the heading of Section 3.3.1 of Volume 5 (page 29), "End-use Measures Not Included in a DSM Program", apparently means both demand response and energy efficiency programs. Section 6 of Volume 5, in contrast, contains headings such as section 6.1 on page 35, "On-going [sic] DSM Programs", with "DSM Programs" apparently intended to mean the entirety of demand-side programs other than energy efficiency.

In meetings, KCP&L did discuss the error and admitted this did cause confusion.

In order to resolve this deficiency, KCP&L should (1) issue an errata sheet(s) indicating where DSM is used to mean "demand-side programs other than energy efficiency" and where the

term is used to mean the entirety of all demand-side programs; and (2) commit to clearly defining any terms of categorization not found in the definitions section of Chapter 22, the Resource Planning rule, or its successor, the first time they are used within future resource plans.

7. KCP&L excluded energy-management measures from its screening of end-use measures required by 4 CSR 240-22.050(1). The term 'end-use measure' is defined in 4 CSR 240-22.020 Definitions as follows:

> (15) End-use measure means an energy-efficiency measure or an energy-management measure.

4 CSR 240-22.020(18) provides the following definition of an energy-management measure:

> Energy-management measure means any device, technology, rate structure or operating procedure that makes it possible to alter the time pattern of electricity usage so as to require less generating capacity or to allow the electric power to be supplied from more fuel-efficient generating units.

Energy-management measures are often referred to as demand-response measures.

In its demand-side analysis, KCP&L appears to use the term 'end-use measure' to solely examine 'energy-efficiency measures'. For example, pages 2 through 10 in Volume 5 discuss Residential and Commercial & Industrial "end-use measures", but Tables 1-4 solely lists energy-efficiency measures. Additionally, Appendix 5L, entitled "End-Use Measure Screening Test", only shows the screening results of energy-efficiency measures, not any proposed energy-management measures. Additionally, Appendix 5.O., titled as providing a "Description of Ongoing and Planned Demand-Side Programs", does not list any of the existing KCP&L tariffed rates such as its time-of-use tariffs.

KCP&L does not discuss the development or screening of any new demand response, time-of use, or critical peak pricing end-use measures within this filing. Furthermore, KCP&L does not discuss the effectiveness of its current tariffs of this type other than its MPower tariff, or the expected future effectiveness of its current programs, anywhere in Volume 5. The current time-of-use and critical peak pricing tariffed rates that are not included in KCP&L's evaluation are:

Name	Tariff Location
Special Interruptible Credit	Tariff No. 7, Sheet 23
Incremental Energy Rider	Tariff No. 7, Sheet 24
Real Time Pricing	Tariff No. 7, Sheet 25
Real Time Pricing Plus	Tariff No. 7, Sheet 26

Voluntary Load Reduction Tariff No. 7, Sheet 27

The above listed tariffs are not included in programs listed in Table 11 on page 21 of KCP&L's December 24, 2008 Supplemental Filing entitled "Existing Energy Affordability, Efficiency, and Demand Response Program Demand and Energy Reductions".

Further in the Supplemental Filing, on page 54, Section 7.5.9., KCP&L explicitly states that it "did not evaluate alternate rate structures in conjunction with DSM planning."

It appears the decision of whether or not to include new energy management measures was also determined by the study done in Appendix 5.H, the KEMA "Price Response and Demand Response Program Portfolio". In its discussion of the KEMA Report, KCP&L writes on page 16 of Volume 5:

> The results of this study were used to validate assumptions employed by KCP&L in developing the DSM program offerings for consideration in the Integrated Resource Plan (IRP). The results of this study were also used to enhance KCP&L's existing demand response programs.

If the analysis and results of this study are intended as a substitution for screening of end-use energy management measures, KCP&L should have requested a waiver.

In order to resolve this deficiency, KCP&L should (1) commit to providing the estimated benefits of all of its existing time-of-use and critical peak pricing tariffs by April 1, 2009; and (2) commit to the screening of additional demand response, time-of-use, and/or critical peak pricing energy-management measures in its next Resource Plan or Sustainable Resource Strategy plan, whichever comes first.

8. KCP&L excluded energy-management programs from its screening of demand-side programs required by 4 CSR 240-22.050(4). Programs built around KCP&L's time-of-use and critical peak pricing tariffs were included in Appendix 5.H, the December 2006 KCP&L instigated KEMA report on demand-response programs, under Figure 1-1, "KCP&L's Current Portfolio", but are nowhere to be seen in the screening of end-use measures provided in Appendix 5.L, or in the description of existing and ongoing programs found in appendix 5.O.

These programs can be extremely effective at reducing demand when system reliability is a concern (typically the hottest times of the year), which may allow KCP&L to avoid building additional peaking units. These programs could also be used to generate additional revenue using off-system sales in the spot market when prices are high.

KCP&L representatives, in the October 30, 2008, meeting with the parties, stated they discussed demand-response programs with stakeholders in person (see Section 1.2 of Volume 5). KCP&L also discusses how it reviewed the programs of other utilities and "subsequently modified the features and benefits of its on-going demand response programs and customer participation has increased as a result." (page 15 , Volume 5; see also meetings described on page 17 of Volume 5)

Staff appreciates KCP&L's discussions with its customers on improvements to the existing energy-management programs. However, KCP&L provides no screening of these modified programs in Appendix 5.L, or any other comparison of the benefits of these modifications to the existing programs.

KCP&L did not take the advice of KEMA in deciding whether or not to develop new programs. For example, the KEMA report suggests a new Variable Peak Pricing program on page 53. No such program was evaluated or included in any other portion of the resource plan filing.

In order to resolve this deficiency, KCP&L should (1) commit to providing the estimated benefits of all of its existing demand response and time-of-use programs by April 1, 2009; (2) if the current programs are not providing benefits, commit to providing by April 1, 2009, an analysis of changes that would make the current programs effective; and (3) commit to the screening of additional demand response, time-of-use, and/or critical peak pricing programs in its next Resource Plan or Sustainable Resource Strategy filing, whichever comes first.

9. KCP&L omitted all multifamily residential dwellings from consideration as required by 4 CSR 240-22.050(1)(B) [involving all decision makers] and 4 CSR 240-22.050(3) [cost effectiveness].

In the October 30, 2008 meeting with the parties to this case, KCP&L representatives stated that multifamily residential dwellings were omitted from consideration in terms of estimating the potential of energy-efficiency end-use measures, thus excluding a significant number of multiple family dwellings.

The effect of this omission can cascade throughout the resource planning process, as an underestimation of the potential of energy-efficiency end-use measures and create the false need for additional supply-side and demand-side resources. Additionally, this omission can cause an end-use measure not to pass through the cost effectiveness screening process, as additional

benefits (as well as additional marginal costs, assuming administrative costs stay constant) are not included, making an end-use measure appear less effective than it would be in reality.

In the October 30, 2008 meeting, KCP&L representatives stated that they would look at direct install programs to address this particular customer segment after the completion of the Resource Planning process. However they did not explain why direct install programs were not included, or at least screened, in the instant Resource Plan.

In order to resolve this deficiency, KCP&L should (1) recalculate the effectiveness of residential programs with the inclusion of the multifamily residential dwellings, and submit the results of any recalculation by April 1, 2009; (2) where shown to be cost-effective, include multifamily dwellings in current programs; (3) commit to the specific inclusion of this customer segment in the next filed Resource Plan; and (4) commit to briefing Staff and any other interested party on or before October 1, 2009 about any future plans involving direct installation programs for multifamily residential buildings.

10. While KCP&L states that it prescreens end-use measures to see whether or not it should even perform a cost-benefit evaluation, but KCP&L does not list these end-use measures in its Resource Planning filing. 4 CSR 240-22.050(1) & previous stipulation, paragraph 19. In the October 30, 2008 meeting, KCP&L discussed a process where end-use measures were considered but not evaluated using the screening process. While it is beneficial to have face-to-face meetings with the Company to learn what end-use measures were considered, but ultimately not screened, filing a list or general description of these end-use measures provides all parties with greater confidence in the Resource Planning process.

Further elucidation in Volume 5 of any end-use measures considered, but not screened, would provide a better feel for whether or not Section 1 of the Demand-Side Resource Analysis rule was met:

> The analysis of demand-side resources shall begin with the development of a menu of energy efficiency and energy management measures that provide broad coverage…

In using this 'prescreening', apparently KCP&L is relying more so on a 'best practices' approach than a rigorous screening of all possible end-use measures. This is in contrast to paragraph 19 of the Non-Unanimous stipulation filed in the previous KCP&L Resource Plan case, EO-2007-0008, which states in part:

> In its current resource planning submission KCP&L used a best practices approach rather than screening all end uses as required by the Commission's regulations. KCP&L has found that utilities are quite willing to share data derived from their experiences with demand-side programs. KCP&L is evaluating the best practices approach vs. an end-use evaluation as required by the Commission's regulations. Based on the foregoing, *should KCP&L continue to use the best practices approach in its next resource planning submission any necessary waivers will be requested.* (emphasis added)

KCP&L did not request a waiver to use a 'best practices' approach.

KCP&L, in its future end-use measure evaluation processes, should include a list or general discussion of any end-use measures that were considered, but not screened for effectiveness and a brief discussion of why they were not considered. In addition, KCP&L should provide a list or general discussion of measures that were 'prescreened' in the instant Resource Plan. Furthermore, KCP&L should request any and all waivers in future resource plans for this 'prescreening' or 'best practices' approach, if necessary.

4 CSR 240-22.060 Integrated Resource Analysis

SUMMARY

This rule requires the electric utility to design alternative resource plans to meet the planning objectives and sets minimum standards for the scope and level of detail required in resource plan analysis. KCPL identified five (5) uncertainties that were judged to have significant impacts on the selection of the preferred resource plan and developed ten (10) future scenarios based on the identified uncertainties. KCPL's consultant, Ventyx, then developed a preferred selection of resource additions under each scenario. Using the knowledge gained from the scenario analysis, KCP&L created 26 alternative resource plans, and subsequently identified Plan 19 as the preferred resource plan. The 26 plans are identified on pages 12-14 of KCP&L's Integrated Resource Analysis Volume 6.

DEFICENCIES

Staff did not find any deficiencies in KCP&L's integrated resource analysis filing.

4 CSR 240-22.070 Risk Analysis and Strategy Selection

SUMMARY

This rule requires the electric utility to look at the risks and uncertainties associated with the portfolios identified in the Integrated Resource Analysis rule, select a preferred plan, an implementation plan for that preferred plan and identify contingency options for that preferred plan. Staff concern regarding the risk analysis is KCP&L not taking into account the impact of prices on demand-side programs in its risk analysis. Staff also found that KCP&L did not provide an explanation or assumptions necessary to estimate future sulfur dioxide emission allowance prices and that KCP&L's documentation of its resource strategy is inadequate.

As part of the Preferred Resource Plan selection process, KCP&L used decision tree analysis to evaluate the twenty-six alternative resource plans against the five critical uncertain factors:

1. Price and availability of natural gas
2. Emission allowance price forecasts
3. System load
4. Price of coal
5. Cost of probable environmental regulations primarily the potential for CO2 emission restrictions, but also including other probable restrictions.

CONCERN

C. KCP&L does not include the impact of price on the levels of demand-side programs in its risk analysis process. 4 CSR 240-22.070(2)(K). The Company is required in the Risk Analysis and Strategy rule in Chapter 22 to perform a sensitivity analysis to identify critical uncertain factors to the performance of the resource plan. Subsection K of this rule specifically mentions the "Future load impacts of demand-side programs".

Section 2.10 of KCP&L's filed Volume 7, "Risk Analysis and Strategy Selection", states that

> KCP&L assumed three levels of future spending and load impacts for current programs (CEP-1 Base, Curtail, and Growth) and four spending and impact levels for future programs, (Aggressive and Normal C&I, Residential and No Future Programs). While the actual spending and impact varies among the plans, the s[p]ending and impact within an individual plan is fixed.

Staff commends KCP&L for using varied degrees of demand-side programs instead of using a process where the demand-side spend level is first 'optimized' and then integrated. However, keeping the demand-side impact level fixed across multiple scenarios seems to violate a basic economic assumption: as rates changes, it is rational to expect consumers to react differently to demand-side programs.

The Company is already utilizing elasticity parameters for heating use in its load forecasting process to model how residential and commercial customers each react to changes in rates. Thus, KCP&L is aware that customers will react to changes in price. In discussing how commercial customers will change their heat use, the Resource Plan states on Volume 3, Load Analysis and Forecasting, page 44:

> By construction, the $HeatUse_{y,m}$ variable has an annual sum that is close to one in the base year, 2001. The *HDD* term serves to allocate annual values to months of the year. The remaining terms average to one in the base year. *In other years, the values will reflect changes in the economic driver changes, as transformed through the end-use elasticity parameters.* (emphasis added)

KCP&L should also be able to construct elasticity variables for demand-side programs, consisting of both energy-efficiency and energy-management end-use measures, based on the same concept.

Properly estimating the effect of prices on demand-side programs will allow KCP&L to better estimate the effectiveness of demand-side programs across a range of possible future scenarios, and to allow the Company to better estimate its future resource needs.

In order to remedy this concern, KCP&L should commit to utilizing elasticity parameters to estimate demand-side end-use program and/or end-use measure impacts across a variety of price levels in its next Resource Plan.

DEFICENCIES

11. KCP&L did not provide an explanation or assumptions necessary to estimate future sulfur dioxide emission allowance prices required by 4 CSR 240-22.070(2)(H) Risk Analysis and Strategy Selection. KCP&L requested a waiver related to Supply-Side Resource Analysis 4 CSR 240-22.040 (8)(D)2, which says:

> The provider of the forecast shall be required to identify the critical uncertain factors that may cause the value of allowances to change significantly and to

provide a range of forecasts and an associated subjective probability distribution that reflects this uncertainty.

It is unclear to Staff why KCP&L did not request a waiver to rule 4 CSR 240-22.070(2)(H) Risk Analysis and Strategy Selection as the two rules appear to be related.

12. KCP&L did not set out the range of critical uncertain factors for which the preferred resource plan or a contingency option is appropriate required by 4 CSR 240-22.070(10)(C), (D). KCP&L generally discussed its resource acquisition strategy in the Executive Summary of its filing but it did not set out the ranges required in 4 CSR 240-22.070(10)(C) or the contingency options required in 4 CSR 240-22.070(10)(D). Given the fact that the alternative resource plans developed by KCP&L were designed with the information gathered from specific scenarios, Staff believes that the alternative resource plans that KCP&L developed would likely have been similar to some of the contingency options required by 4 CSR 240-22.070(10)(D).

13. KCP&L did not develop a process for monitoring and reporting on critical uncertain factors required by 4 CSR 240-22.070(10)(E). KCP&L stated that it will monitor the potential enactment of carbon tax or carbon cap and trade legislation by the U.S. Congress. KCP&L also stated that additional considerations and on-going planning will be required to monitor uncertainties and provide improvements to the plan as more is learned regarding key uncertainties. However, that does not meet the requirements of 4 CSR 240-22.070(10)(E). KCP&L did not develop a process for monitoring critical uncertain factors on a continuous basis and reporting significant changes to those managers or officers who have authority to direct the implementation of contingency options when the specified limits for uncertain factors are exceeded.

4 CSR 240-22.080 Filing Schedule and Requirements

SUMMARY

Section (2) of the Filing Schedule and Requirements rule allows the electric utility to include a request for non-traditional accounting procedures regarding ratemaking treatment for demand-side resource costs. KCP&L's supplemental filing in this case contained Section 7.4, "Request for Non-Traditional Rate Making (Rule 22.080(2))". This Section contained a request for three separate "components for cost recovery" for demand-side programs. KCP&L's request for separate cost recovery was not contained in its original filing. Staff is not aware of any discussions at any of the subsequent meetings with KCP&L regarding non-traditional ratemaking treatment of demand-side resource cost, thus making it inappropriate for KCP&L to include such a request in its supplemental filing.

DEFICIENCY

14. KCP&L's request for nontraditional accounting procedures regarding DSM programs was filed out of time and does not meet the requirements of- 4 CSR 240-22.080(2). 4 CSR 240-22.080(2) requires any request for nontraditional accounting procedures to be in the original Resource Plan filing, not in any subsequent or supplemental filing. This portion of the rule begins:

> The electric utility's compliance filing may also include a request for nontraditional accounting procedures and information regarding any associated ratemaking treatment to be sought by the utility for demand-side resource costs. *If the utility desires to make any such request, it must be made in the utility's compliance filing pursuant to this rule and not at some subsequent time.* (emphasis added)

No waiver request relating to the above italicized portion of the rule was included with the supplemental filing, nor was any waiver request for this rule included before the filing of the Resource Plan.

The request is a complicated and unique filing, requiring analysis from both those with demand-side resource planning knowledge and accounting knowledge. Filing this request a

mere sixteen calendar days (including holidays) before the Staff report is due does not allow for even one round of data requests, much less ample time to review the request.

In order to resolve this deficiency, KCP&L should remove this section from its Supplemental Filing.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the 2008 Resource Plan of Kansas City Power & Light Company Pursuant to 4 CSR 240-22	)))	Case No. ER-2008-0034

AFFIDAVIT OF MATTHEW J. BARNES

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Matthew J. Barnes, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 21 to 22 and page 19 ; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Matthew J. Barnes

Subscribed and sworn to before me this 8th day of January 2009.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086

Susan L. Sundermeyer
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the 2008 Resource Plan of Kansas City Power & Light Company Pursuant to 4 CSR 240-22	)))	Case No. ER-2008-0034

AFFIDAVIT OF DANIEL I. BECK

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Daniel I. Beck, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 20 to 22; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Daniel I. Beck

Subscribed and sworn to before me this 8th day of January 2009.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the 2008 Resource Plan of Kansas City Power & Light Company Pursuant to 4 CSR 240-22	)))	Case No. ER-2008-0034

AFFIDAVIT OF LEON C. BENDER

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Leon C. Bender, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 11 to 12; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

Leon C. Bender

Subscribed and sworn to before me this 8th day of January 2009.

Notary Public

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the 2008 Resource Plan of Kansas City Power & Light Company Pursuant to 4 CSR 240-22	)))	Case No. ER-2008-0034

AFFIDAVIT OF LENA M. MANTLE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Lena M. Mantle, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Staff Report in pages 1 to 7; that she has knowledge of the matters set forth in such Report; and that such matters are true to the best of her knowledge and belief.

Lena M. Mantle

Lena M. Mantle

Subscribed and sworn to before me this 8th day of January 2009.

Susan L. Sundermeyer

Notary Public

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the 2008 Resource Plan of Kansas City Power & Light Company Pursuant to 4 CSR 240-22	)))	Case No. ER-2008-0034

AFFIDAVIT OF ADAM MCKINNIE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Adam McKinnie, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 13 to 18, 20 to 21 and 23 to 24; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

AM

Adam McKinnie

Subscribed and sworn to before me this 8th day of January 2009.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086

Susan L. Sundermeyer
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the 2008 Resource Plan of Kansas City Power & Light Company Pursuant to 4 CSR 240-22	)))	Case No. ER-2008-0034

AFFIDAVIT OF DAVID C. ROOS

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

David C. Roos, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Staff Report in pages 8 to 10; that he has knowledge of the matters set forth in such Report; and that such matters are true to the best of his knowledge and belief.

David C. Roos

Subscribed and sworn to before me this 8th day of January 2009.

Notary Public

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086