KANSAS CITY POWER & LIGHT COMPANY (KCP&L)

2012 ANNUAL RENEWABLE ENERGY STANDARD COMPLIANCE PLAN

April 15, 2012

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SECTION 1: INTRODUCTION

Kansas City Power & Light Company ("KCP&L"), a Missouri Corporation, has filed its 2012 Annual Renewable Energy Standard Compliance Plan ("2012 Plan") in compliance with the Missouri Public Service Commission's ("Commission") Electric Utility Renewable Energy Standard Requirements [4 CSR 240-20.100]. Section (7) of the rule requires that each public utility file with the Commission a Renewable Energy Standard (RES) Compliance Plan by April 15 of each year.

Specifically, Section 7 (B) of the rule requires that the plan shall cover the current year and the immediately following two (2) calendar years. The RES compliance plan shall include, at a minimum:

A. A specific description of the electric utility's planned actions to comply with the RES;

B. A list of executed contracts to purchase Renewable Energy Credits (RECs) (whether or not bundled with energy), including type of renewable energy resource, expected amount of energy to be delivered, and contract duration and terms;

C. The projected total retail electric sales for each year;

D. Any differences, as a result of RES compliance, from the utility's preferred resource plan as described in the most recent electric utility resource plan filed with the commission in accordance with 4 CSR 240-22, Electric Utility Resource Planning;

E. A detailed analysis providing information necessary to verify that the RES compliance plan is the least cost, prudent methodology to achieve compliance with the RES;

F. A detailed explanation of the calculation of the RES retail impact limit calculated in accordance with section (5) of this rule. This explanation should include the pertinent information for the planning interval which is included in the RES compliance plan; and

G. Verification that the utility has met the requirements for not causing undue adverse air, water, or land use impacts pursuant to subsection 393.1030.4. RSMo, and the regulations of the Department of Natural Resources.

The 2012 Plan presents KCP&L's planned renewable compliance efforts and purchases that are currently underway and that will continue through 2012-2014 to achieve the requirements of 4 CSR 240-20.100.

SECTION 2: RES COMPLIANCE PLAN

Rule (7) (B) 1: The plan shall cover the current year and the immediately following two (2) calendar years. The RES compliance plan shall include, at a minimum -

2.1 RULE (7) (B) 1 A:

A specific description of the electric utility's planned actions to comply with the RES;

2.1.1 NON-SOLAR COMPLIANCE

KCP&L generates renewable energy at its Spearville wind facility located in Kansas, and will continue to do so in the 2012-2014 Plan period. The Spearville facility is a wind farm wholly owned by KCP&L, with 100.5 MW of capacity installed in 2006, with an additional 48 MW of capacity installed in 2010. This wind generation has created a bank that began in January 2008, with approximately 735,000 RECs attributable to Missouri customers at December 31, 2011 that KCP&L intends to use to comply with its 2012 RES requirements which are shown in Table 2.

Additionally, KCP&L has procured two long-term Purchase Power Agreements, approximately 230 MW of wind capacity with on-line dates in 2012 from facilities located in Kansas. One PPA is with a subsidiary of Duke Energy Renewables to purchase energy from a 131.1 MW wind project located in Gray County, Kansas. The other PPA agreement is with Spearville 3 LLC, whose parent company is enXco Development, to purchase energy from a 100.8 MW wind project located in Ford County, Kansas.

Additionally, KCP&L entered into a PPA with Hampton Alternative Energy Products, LLC in early 2012 for the net generation output from the Confined Animal Feedlot Operation (CAFO) facility in Triplett, Missouri, in which an anaerobic digester will capture methane from manure and utilize gen-sets to convert the captured methane into electricity. The expected power output from the facility is 300 kW. The output from this facility, which is not needed to meet RES requirements in the 2012 to 2014 Plan period, may generate qualified RECs after internal demand needs are met.

Accordingly, KCP&L expects to have banked RECs available to meet its RES requirements in 2013 and 2014 based on RECs unexpired at the end of 2012, in addition to the RECs created from approximately 300,000 MWh of generation per year from Spearville 1 and 2 which represents Missouri's portion of the total generation from these resources. Beginning in 2013, Cimarron II is expected to generate approximately 296,000 MWh per year and Spearville 3 is expected to generate approximately 242,000 MWh which represents Missouri's portion of the total generation from these resources. The RECs generated from the above listed renewable resources in addition to the banked RECs fulfill KCP&L's Missouri RES non-solar requirements for the Plan period shown in Table 2 below.

2.1.2 <u>SOLAR COMPLIANCE</u>

KCP&L continues to engage the energy markets to identify new or existing resource opportunities to meet its solar renewable requirements. Accordingly, on December 23, 2010, KCP&L submitted a Request for Proposal (RFP) to meet the anticipated solar capacity needs for years after 2011. A single RFP was issued to cover both KCP&L and KCP&L Greater Missouri Operations Company (GMO) solar requirements. The RFP provisions specified that up to 7,000 megawatt hours (MWh) of solar requirements are needed with a commercial on-line date (COD) of no later than December 2011, and an annual output of up to 18,000 MWh with a COD of no later than December 2013. The RFP indicated that proposals may also be submitted to meet the 18,000 MWh annual output. Based on the responses to the RFP and other industry solar cost sources such as EPRI, along with the current market pricing for SRECs, the Company plans to utilize SRECs for compliance during the Plan period as shown in Table 2 below.

KCP&L will continue to evaluate the feasibility and economics of constructing and operating utility scale solar generation. The evaluation of these results will be taken into consideration along with offers from third party solar developers and market prices of solar RECs.

In addition, as part of its SmartGrid project, in late 2011 KCP&L completed installation of a 100 kW solar generating system at the Paseo Academy of Fine and Performing Arts. This solar installation, the largest in the metropolitan area, is part of the plan to install 180 kW of solar by the end of 2012 in the SmartGrid project area. The facility's electricity will be distributed to KCP&L's service territory, and it may generate qualified SRECs.

2.1.3 STANDARD OFFER CONTRACT

On October 31, 2011, KCP&L and GMO filed a joint application asking the Commission to grant a variance from the Commission's renewable energy standards rule to allow both entities to delay filing a standard offer contract for the purchase of solar renewable energy credits for the 2012 compliance year beyond the November 1, 2011 submission date specified in the rule. KCP&L and GMO asked the Commission to allow the companies until November 1, 2012 to file a Standard Offer Contract tariff for compliance in 2012. The Commission issued an order effective December 5, 2011 allowing the variance. KCP&L and GMO are working to establish suitable accounting treatment of costs associated with the standard offer and continue to monitor conditions around the solar market to determine the best course of action for the companies and their customers.

2.2 RULE (7) (B) 1 B:

A list of executed contracts to purchase RECs (whether or not bundled with energy), including type of renewable energy resource, expected amount of energy to be delivered, and contract duration and terms;

Table 1 below provides the details of KCP&L's executed contracts to purchase renewable wind energy.

Table 1: KCP&L List of Executed Contracts for Renewable Wind Energy

KCP&L Renewable Wind Energy Contracts						
Project Name	**Contracting Parent Company**	**Contract Type**	**Project Size (MW)**	**COD Date**	**Term (Yrs)**	**Expected Energy (MWh)**
Cimarron II	Duke Energy	Energy & RECs	131.1	6/1/2012	20	516,650
Spearville 3	enXco Development	Energy & RECs	100.8	12/31/2012	20	423,000

It should be noted that the expected generating output in Table 1 does not match Missouri portion of generation provided in Section 2.1.1 as the expected energy listed above reflects the total (100%) expected output of each facility by 2013.

To comply with Missouri 2012 solar RES requirements, KCP&L will be purchasing SRECs from a qualified facility that will likely be located outside of Missouri. The purchase is expected to be for SRECs only with no energy to be delivered. The SRECs will be registered in WREGIS (Western Renewable Energy Generation Information System) and will have been transferred to NARR (North American Renewables Registry).

2.3 <u>RULE (7) (B) 1 C:</u>

The projected total retail electric sales for each year;

KCP&L's historical and forecasted Missouri retail electric sales, associated RES requirements, and KCP&L's compliance shown in terms of RECs are provided in Table 2 below.

Table 2: KCP&L Retail Sales, RES Requirements and Compliance Plan

Year	Retail Electric Sales (MWh)	Non-Solar Req. (MWh)	KCP&L RECs (MWh)	Solar Req. (MWh)	KCP&L SRECs (MWh)
2008	8,777,481				
2009	8,459,213				
2010	8,877,996				
2011	8,747,836	171,458	652,000	3,499	3,663
2012	9,241,415	181,132	735,600	3,697	3,840
2013	9,298,181	182,244	854,400	3,719	3,860
2014	9,383,653	459,799	1,490,100	9,384	9,750

2.4 RULE (7) (B) 1 D:

Any differences, as a result of RES compliance, from the utility's preferred resource plan as described in the most recent electric utility resource plan filed with the commission in accordance with 4 CSR 240-22, Electric Utility Resource Planning;

KCP&L filed a Preferred Resource Plan on April 9, 2012. There are no differences between KCP&L's RES compliance and the Preferred Resource Plan. The Preferred Resource Plan includes wind additions of 100 MW in 2016, 200 MW in 2020, and 100 MW in 2023. It should be noted that wind is based on nameplate capacity.

KCP&L's Preferred Resource Plan also includes the addition of solar capacity consisting of 11 MW in 2018, 6 MW in 2021, and 3 MW in 2023.

These capacity additions listed above are outside the RES Plan timeframe, but are noted as future renewable additions.

As a result of the uncertainty around the RES rules and the cost of SRECs, KCP&L plans to meet the RES solar requirements during the 2012-2014 RES Plan period with purchased SRECs.

2.5 RULE (7) (B) 1 E

A detailed analysis providing information necessary to verify that the RES compliance plan is the least cost, prudent methodology to achieve compliance with the RES;

The existing Spearville wind generating facility being utilized for non-solar compliance was installed prior to passage of the RES rules and was justified and constructed as part of KCP&L's Comprehensive Energy Plan. Since this facility is already in place, the wind energy provided by this facility represents the least cost approach for achieving non-solar compliance for the 2012 to 2014 Plan period.

KCP&L submitted a Request for Proposal (RFP) to meet wind requirements in November 2010. Additionally, in August 2011, a single RFP was issued to cover both KCP&L and GMO non-solar requirements. A complete evaluation of both sets of proposals received was conducted and resulted in consummation of two separate PPAs. As mentioned above, one PPA is with Duke Energy Renewables for the Cimarron II wind farm, and the other with enXco for the Spearvillle 3 wind farm. These PPAs were entered into to take advantage of low-cost energy prices and to meet future KCP&L wind RES requirements.

2.5.1 THIRD PARTY SOLAR SREC PROCUREMENT

For solar compliance, the purchase of SRECs through an industry broker is the least expensive alternative. The SRECs that KCP&L intends to purchase for compliance do not represent actual power delivery. For 2012, KCP&L will purchase approximately 3,800 SRECs needed for compliance at a cost that is significantly less than the projected cost to add new solar capacity based on responses to KCP&L solar RFPs and on EPRI solar cost data. The SRECs needed for compliance have not been purchased as of the date of this 2012 Plan. The estimated cost of the SRECs to be purchased for 2012 compliance is approximately $43,000. Note that 1 SREC represents 1 MWh of solar generation. The all-in cost for compliance under a solar PPA or Ownership option is over $230 per MWh and over $220 per MWh, respectively.

2.6 <u>RULE (7) (B) 1 F</u>

A detailed explanation of the calculation of the RES retail impact limit calculated in accordance with section (5) of this rule. This explanation should include the pertinent information for the planning interval which is included in the RES compliance plan;

The retail rate impact, as calculated per subsection (5) (B), may not exceed one percent (1%) for prudent costs of renewable energy resources directly attributable to RES compliance. The retail rate impact shall be calculated on an incremental basis for each planning year that includes the addition of renewable generation directly attributable to RES compliance through procurement or development of renewable energy resources.

For each Company, KCP&L and GMO, the direct costs of compliance for the three-year planning period (2012-2014) were compared to the expected retail revenue forecast from the latest Corporate Budget. Since each Company Preferred Plan identified in the April 2012 IRP filings only contains renewable additions that improve each Company's cost, no non-compliant plan is necessary to calculate rate impacts.

The summary of these calculations (average increase in annual revenue requirement) for KCP&L is provided below.

3-Year Average	0.92%

2.7 <u>RULE (7) (B) 1 G</u>

Verification that the utility has met the requirements for not causing undue adverse air, water, or land use impacts pursuant to subsection 393.1030.4. RSMo, and the regulations of the Department of Natural Resources.

The solar facility from which the SRECs will be purchased to achieve 2012 solar RES compliance is expected to be located outside of the State of Missouri. The SRECs will be registered in WREGIS (Western Renewable Energy Generation Information System) and have been transferred to NARR (North American Renewables Registry), and are also National Green-e Certified.

Wind generation specifically conforms to the eligible renewable energy resources listed in section (2) of Missouri Department of Natural Resources (MDNR) rule 10.CSR 140-8.010. The Spearville I and II wind facilities are located within Kansas. The Cimarron II and Spearville 3 wind facilities are located in Kansas and are not owned by KCP&L, and the owner-operator would be responsible for ensuring that they have not caused any undue adverse air, water, or land use impacts.

All generating facilities utilized by KCP&L to meet the requirements of the Missouri RES have, to its knowledge, received all necessary environmental and operational permits and are in compliance with any necessary federal, state and/or local requirements related to air, water and land use.

KCP&L will submit additional information as required by the MDNR in order to review the energy sources and environmental impact so long as there are appropriate provisions for confidential treatment of any sensitive information. KCP&L will grant or obtain access to facility sites and records for MDNR.

SECTION 3: RATE ANALYSIS

PURPOSE: This report demonstrates compliance with 4 CSR 240-20.100(5) and determines the average rate impact within a ten-year period and incorporating the effects of future GHG legislation and costs.

3.1 RETAIL RATE IMPACT

Rule (5)(A): The retail rate impact, as calculated in subsection (5)(B), may not exceed one percent (1%) for prudent costs of renewable energy resources directly attributable to RES compliance. The retail rate impact shall be calculated on an incremental basis for each planning year that includes the addition of renewable generation directly attributable to RES compliance through procurement or development of renewable energy resources, averaged over the succeeding ten (10)-year period, and shall exclude renewable energy resources owned or under contract prior to the effective date of this rule.

For each Company, KCP&L and GMO, the direct costs of compliance for the three-year planning period (2012-2014) were compared to the expected retail revenue forecast from the latest Corporate Budget. Since each Company Preferred Plan identified in the April 2012 IRP filings only contains renewable additions that improve each Company's cost, no non-compliant plan is necessary to calculate rate impacts.

Only costs associated with S-REC purchases and Solar Rebates meet the criteria of increasing revenue requirement and are required by Missouri Prop C or Rule 240-20.100 (2).

The increased revenue requirement from the S-REC purchases and Solar Rebates is calculated as a percent of the forecasted Retail Revenue from the latest Corporate Budget for the current year and the two following years. The summary of these calculations are given in Table 3 below.

Table 3: Average Increase – Annual Revenue Requirement

Average Increase in Annual Revenue	
KCP&L-MO	GMO
3-Year Avg	3-Year Avg
0.92%	1.18%

3.2 TOTAL REVENUE REQUIREMENTS

Rule (5)(B): The RES retail rate impact shall be determined by subtracting the total retail revenue requirement incorporating an incremental non-renewable generation and purchased power portfolio from the total retail revenue requirement including an incremental RES compliant generation and purchased power portfolio.

The Expected Retail Revenue for each Company Plan is detailed in the following table. Please note that revenue values for KCP&L are for the Missouri jurisdiction only.

Table 4: Revenue Requirement Forecast from Corporate Budget

Expected Retail Revenue ($M)		
Year	KCP&L-MO	GMO
2012	744.8	717.3
2013	829.2	776.3
2014	833.1	802.3

3.3 ALTERNATIVE PLANS

Rule (5)(B): The non-renewable generation and purchased power portfolio shall be determined by adding to the utility's existing generation and purchased power resource portfolio additional non-renewable resources sufficient to meet the utility's needs on a least-cost basis for the next ten (10) years. The RES-compliant portfolio shall be determined by adding to the utility's existing generation and purchased power resource portfolio an amount of renewable resources sufficient to achieve the standard set forth in section (2) of this rule and an amount of least-cost non-renewable

resources, the combination of which is sufficient to meet the utility's needs for the next ten (10) years.

The Non-Compliant Plans for each company were not necessary to perform the rate impact calculation, as all non-solar renewable additions caused revenue requirements to decrease. Therefore, all non-solar resources are justified without the requirement of Missouri Prop C or Rule 240-20.100 (2). And only solar-based expenses are used to calculate rate impact.

For each Company the following tables show the projected amounts of renewable expenses associated with the solar resources and rebates needed to comply with the requirements of Missouri's Renewable Standard during the 2012-2014 Plan period.

Table 5: KCP&L Compliance Plan

KCP&L COMPLIANCE EXPENDITURES					
YEAR	S-RECs	S-REC PRICE	S-REC COST	SOLAR REBATES	TOTAL
2012	3,845	$ 11.34	$ 43,601	$ 5,777,406	$ 5,821,006
2013	3,868	$ 13.34	$ 51,596	$ 7,221,757	$ 7,273,353
2014	9,759	$ 15.34	$ 149,709	$ 9,027,196	$ 9,176,905

Table 6: GMO Compliance Plan

GMO COMPLIANCE EXPENDITURES					
YEAR	S-RECs	S-REC PRICE	S-REC COST	SOLAR REBATES	TOTAL
2012	3,663	$ 11.34	$ 41,537	$ 7,061,273	$ 7,102,811
2013	3,704	$ 13.34	$ 49,418	$ 8,826,592	$ 8,876,010
2014	9,418	$ 15.34	$ 144,476	$ 11,033,240	$ 11,177,716

3.4 RESOURCE PLAN SOURCES

Rule (5)(B): These renewable energy resource additions will utilize the most recent electric utility resource planning analysis.

The KCP&L Plan was based upon Plan AGEK9 from the 2012 IRP filed under Docket EO-2012-0323. The GMO Plan was based upon Plan ACCG9 from the 2012 IRP filed under Docket EO-2012-0324.

3.5 ANALYSIS DATA SOURCE

Rule (5)(B): These comparisons will be conducted utilizing projections of the incremental revenue requirement for new renewable energy resources, less the avoided cost of fuel not purchased for nonrenewable energy resources due to the addition of renewable energy resources. In addition, the projected impact on revenue requirements by non-renewable energy resources shall be increased by the expected value of greenhouse gas emissions compliance costs, assuming that such costs are made at the expected value of the cost per ton of greenhouse gas emissions allowances, cost per ton of a greenhouse gas emissions tax (e.g., a carbon tax), or the cost per ton of greenhouse gas emissions reductions for any greenhouse gas emission reduction technology that is applicable to the utility's generation portfolio, whichever is lower. Calculations of the expected value of costs associated with greenhouse gas emissions shall be derived by applying the probability of the occurrence of future greenhouse gas regulations to expected level(s) of costs per ton associated with those regulations over the next ten (10) years. Any variables utilized in the modeling shall be consistent with values established in prior rate proceedings, electric utility resource planning filings, or RES compliance plans, unless specific justification is provided for deviations.

The Company assumes no CO_2 credit market will arise in the current year or the two following years. Future CO_2 credit price risk does not affect this calculation.

3.6 RATE IMPACT COMPARISON

Rule (5)(B): The comparison of the rate impact of renewable and non-renewable energy resources shall be conducted only when the electric utility proposes to add incremental renewable energy resource generation directly attributable to RES compliance through the procurement or development of renewable energy resources.

The comparison of the annual compliance costs to the Expected Retail Revenue in the following tables. Please note that the revenue values for KCP&L are for the Missouri jurisdiction only.

Table 7: KCP&L Annual Rate Impact

KCP&L-MO Annual Rate Impact			
Year	Retail Rev. ($M)	RES EXP ($M)	Rate Impact
2012	744.82	5.82	0.78%
2013	829.18	7.27	0.88%
2014	833.08	9.18	1.10%

Table 8: GMO Annual Rate Impact

GMO Annual Rate Impact			
Year	Rev. Req. ($M)	RES EXP ($M)	Rate Impact
2012	717.27	7.10	0.99%
2013	776.34	8.88	1.14%
2014	802.33	11.18	1.39%

3.7 REBATES

Rule (5)(C) Rebates made during any calendar year in accordance with section (4) of this rule shall be included in the cost of generation from renewable energy resources.

Projected solar rebates have been included in the analysis and are provided in Table 5 and Table 6 above.

3.8 ADJUSTMENTS

Rule (5)(D) For purposes of the determination in accordance with subsection (B) of this section, if the revenue requirement including the RES-compliant resource mix, averaged over the succeeding ten (10)-year period, exceeds the revenue requirement that includes the non-renewable resource mix by more than one percent (1%), the utility shall adjust downward the proportion of renewable resources so that the average annual revenue requirement differential does not exceed one percent (1%). In making this adjustment, the solar requirement shall be in accordance with subsection (2)(F) of this rule. Prudently incurred costs to comply with the RES standard, and passing this rate impact test, may be recovered in accordance with section (6) of this rule or through a rate proceeding outside or in a general rate case.

The Current Year revenue impact for both Companies is less than 1%. Therefore no adjustments are required to the plans in the near-term. Three-year average impacts are rising and the amount of solar rebates will need to be monitored closely.

3.9 FEDERAL PROGRAM COSTS

Rule (5)(E) Costs or benefits attributed to compliance with a federal renewable energy standard or portfolio requirement shall be considered as part of compliance with the Missouri RES if they would otherwise qualify under the Missouri RES without regard to the federal requirements.

KCP&L does not have a federal obligation at this time.