

**KANSAS CITY POWER & LIGHT
COMPANY (KCP&L)**

**2015 ANNUAL RENEWABLE ENERGY
STANDARD COMPLIANCE PLAN**

CASE NO. EO-2015-0265

April 22, 2015



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SECTION 1: INTRODUCTION

Kansas City Power & Light Company (“KCP&L”), a Missouri Corporation, has filed its 2015 Annual Renewable Energy Standard Compliance Plan (“2015 Plan”) in compliance with the Missouri Public Service Commission’s (“Commission”) Electric Utility Renewable Energy Standard Requirements [4 CSR 240-20.100] that became effective September 30, 2010 and the Commission’s order in Case No. ET-2014-0071. 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 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 2015 Plan represents KCP&L's planned renewable compliance efforts and purchases that are currently underway and that will continue through 2015-2017 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 1 wind facility located in Kansas, and will continue to do so during the 2015-2017 RES Compliance Plan period. The Spearville 1 facility, installed in 2006, is wholly owned by KCP&L and has a capacity of 100.5 MW. An additional 48 MW of capacity was constructed in 2010 (Spearville 2).

Additionally, KCP&L has entered into two 20-year Power Purchase Agreements (PPAs) totaling approximately 230 MW of installed wind capacity for facilities which entered into service in 2012. One PPA is with a subsidiary of Duke Energy Renewables and Sumitomo Corp. for 131.1 MW from the Cimarron II wind project located in Gray County, Kansas. The other PPA is with Spearville-3 LLC, whose parent company is EDF Renewables, to purchase energy from a 100.8 MW wind project located in Ford County, Kansas.

KCP&L has obtained resource additions for wind facilities not yet in-service which are the result of KCP&L's issuance of a Request for Proposals ("RFP") to obtain and evaluate wind project offers from wind developers. Accordingly, one addition KCP&L obtained is the Waverly wind resource through a PPA with EDP Renewables for a 200 MW facility located in Coffey County, Kansas. This PPA was executed on November 18, 2013 and has an expected Commercial Operating Date ("COD") of on or before December 31, 2015. The other KCP&L addition is

Slate Creek wind. This PPA with EDF Renewables is for a 150 MW facility located in Sumner and Cowley Counties in Kansas. This PPA was executed on June 11, 2014 and has an expected COD of on or before December 31, 2015.

KCP&L also 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 2015-2017 RES Compliance Plan period, may generate qualified RECs after internal energy needs are met.

The annual estimated Missouri jurisdictional share of KCP&L's wind generation is approximately 280,000 MWh per year from Spearville 1 and 2, approximately 300,000 MWh from Cimarron II, and approximately 230,000 MWh from Spearville-3. This generation may be impacted by available transmission capacity.

KCP&L expects to have banked RECs available to meet its RES requirements based on RECs unexpired at the end of 2014, in addition to the RECs created from wind facilities' actual generation. Accordingly, the RECs generated from these renewable resources in addition to the banked RECs will fulfill KCP&L's Missouri RES non-solar requirements for the 2015 to 2017 RES Compliance Plan period shown in Table 3 below.

** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] **

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2.1.2 SOLAR COMPLIANCE

KCP&L anticipates that the acquisition of Solar Renewable Energy Credits (SRECs), principally from KCP&L retail customers that have received rebates for solar facility installations, will be sufficient for compliance with the Missouri solar energy requirements for the 2015 to 2017 RES Compliance Plan period. The SRECs will be transferred to KCP&L from qualified customer-generator's operational solar electric systems as a condition of receiving the solar rebate, a change instituted with Missouri House Bill 142 becoming law on August 28, 2013. SRECs produced from these solar electric systems will be transferred to KCP&L for a period of 10 years.

In addition, as part of the SmartGrid project, KCP&L completed the solar installations shown in Table 1 below.

Table 1: KCP&L SmartGrid Solar Installations

Installation	Completion Date	Size (kW)
Paseo High School	Apr-12	99.18
Innovation Park – KCP&L Midtown	Oct-12	5.0
Midwest Research Institute	May-13	10.56
Blue Hills Solar	May-13	10.08
UMKC Flarsheim Hall	Jul-13	4.32
UMKC Student Union	Jul-13	5.28
KCP&L Crosstown Substation	Apr-14	29.33
KCMO Swope Parkway	Jun-14	9.54
Total		173.3

These solar installations were part of the plan to install approximately 180 kW of utility owned and operated solar in and around the SmartGrid demonstration project area. The generation from these facilities will be distributed to KCP&L's service territory and is expected to provide qualified SRECs. The final installation of SmartGrid solar was completed in the second quarter of 2014. Due to lien and legal restrictions, no solar facilities were installed on residential properties.

Additionally, in 2016 KCP&L expects to add 3 MW of solar resources consisting of Commercial and Industrial rooftop installations owned by KCP&L. Generation from these KCP&L installations would be eligible for application of the additional twenty-five hundredths (0.25) credit as these facilities will be located in Missouri.

KCP&L will continue to monitor the feasibility and economics of constructing and operating additional utility scale solar generation in the future.

2.1.3 STANDARD OFFER CONTRACT

KCP&L does not have a Standard Offer Contract tariff in place at this time.

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

**Table 2: KCP&L List of Executed Contracts for Renewable Wind Energy
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Project Name	Contracting Parent Company	Contract Type	Project Size (MW)	COD Date	Term (Yrs.)	Expected Annual Energy (MWh)
Cimarron II	Duke / Sumitomo	Energy & RECs	131.1	6/1/2012	20	517,000
Spearville 3	EDF Renewable Energy	Energy & RECs	100.8	10/1/2012	20	404,000
Waverly	EDP Renewables	Energy & RECs	200	12/31/2015	20	852,000
Slate Creek	EDF Renewable Energy	Energy & RECs	150	12/31/2015	20	662,000

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It should be noted that the expected generating output in Table 2 does not match the 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. In any case, the expected output is significantly above what is expected to be needed for the non-solar RES compliance.

To comply with the Missouri 2015-17 solar RES requirements, KCP&L expects to utilize SRECs transferred from qualified customer-generator's operational solar electric systems as a condition of receiving the solar rebate. Those SRECs will be registered through the North American Renewables Registry.

2.3 RULE (7) (B) 1 C:

The projected total retail electric sales for each year;

KCP&L's projected Missouri retail electric sales and associated RES requirements are provided in Table 3 below.

Table 3: KCP&L Projected Retail Sales and RES Requirements ^{Highly Confidential**}**

Year	Projected Retail Electric Sales (MWh)	Non-Solar Req. (MWh)	Solar Req. (MWh)
2015			
2016			
2017			

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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;

The RES Compliance Plan described in this report mirrors KCP&L's 2015 IRP Preferred Plan filed on April 1, 2015 under Case EO-2015-0254.

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 1 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 2015-2017 RES Compliance

In August 2011, a single wind generation RFP was issued to cover KCP&L and GMO non-solar requirements. An evaluation of the proposals received was conducted and resulted in execution of two separate 20-year PPAs. The first PPA was with Duke Energy Renewables for the Cimarron II wind facility, and the second with EDF Renewables for the 100 MW Spearville-3 wind facility. Additionally, KCP&L chose to execute two other 20-year PPAs, one with EDP Renewables for the Waverly wind facility and one with EDF Renewables for the Slate Creek wind facility. These PPAs were entered into to take advantage of low-cost energy prices and will also be used to meet KCP&L non-solar RES requirements.

2.5.1 THIRD PARTY SOLAR SREC PROCUREMENT

KCP&L believes it will not require any additional third party SRECs for the foreseeable future, based on the inclusion of SRECs transferred from qualified customer-generator's operational solar electric systems as a condition of receiving solar rebates, along with future solar installations to be owned by KCP&L.

2.6 RULE (7) (B) 1 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;

See Section 3 of this RES Compliance Plan for a description of the retail rate impact calculation.

2.7 RULE (7) (B) 1 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 qualified customer-generator's solar electric systems from which SRECs will be acquired to achieve solar RES compliance will not be owned by KCP&L, as customers would be responsible for ensuring that these facilities have not caused any undue adverse air, water, or land use impacts.

Wind generation specifically conforms to the eligible renewable energy resources listed in section (2) of Missouri Department of Economic Development – Division of Energy (MDED-DOE) rule 4.CSR 340-8.010. The Spearville 1 and 2 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 are responsible for ensuring that they have not caused any undue adverse air, water, or land use impacts. The Waverly and Slate Creek wind

facilities expected to be completed in late 2015 will be located in Kansas are not owned by KCP&L, and the owner-operator would be responsible for ensuring that it has 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 MDED-DOE 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 MDED-DOE.

SECTION 3: RATE ANALYSIS

PURPOSE: This report demonstrates compliance with 4 CSR 240-20.100(5) and the Commission's Order, effective November 10, 2013, in Case No. ET-2014-0071 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.

The retail rate impact was calculated by comparing a non-renewable generation and purchased power portfolio to a RES-compliant portfolio with sufficient renewable resources to achieve the renewable standards. KCP&L has performed this rate impact calculation in accordance with the Stipulation and Agreement filed October 3, 2013, Case Number ET-2014-0071. The calculations were completed consistent with KCP&L's understanding of Staff's interpretation of the RES rules. For each year of the 2015-2017 RES Compliance Plan period, the retail rate impact is limited to a maximum of 1% of the 10-year average non-RES compliant revenue requirement.

The 2015-2017 RES Compliance Plan period retail rate impacts were estimated using Staff's calculation method for reporting purposes only. KCP&L has presumed that the solar requirements will be met with SRECs transferred from qualified customer-generator's operational solar electric systems as a condition of receiving the solar rebate.

As indicated above, KCP&L performed the retail rate impact calculation for reporting purposes only using Staff's methodology as required by the Commission's order in Case No. ET-2014-0071. That Commission order, which is final and non-appealable, also provided that 1) KCP&L could suspend payment of solar rebates after making solar rebate payments of at least \$36.5 million after August 31, 2012 (which KCP&L will do in the near future), and 2) the retail rate impact methodology was still a matter in dispute among stakeholders and would be the subject of a future rulemaking proceeding (which has not yet occurred). For 2015, 2016 and 2017, respectively, that calculation produces ** [REDACTED] [REDACTED].** KCP&L asserts that Staff's methodology does not present an accurate and complete picture of the retail rate impact of KCP&L's spending on renewables for the following reasons:

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- The above retail rate impact calculations do not take into account that KCP&L has paid close to \$36.5 million in solar rebates which is in compliance with the specified level as approved by the MPSC in Case No. ET-2014-0071 and is well in excess of 1% of its revenues.
- KCP&L's current rate case, Case No. ER-2014-0370, is based on annual recovery of renewable energy costs and reflects recovery of 1% of KCP&L's revenues.
- As shown by comparing Tables 2 and 3, KCP&L's renewable portfolio far exceeds the requirements of the statute.

When the above reasons are taken into consideration, KCP&L asserts that the rate impact of RES spending is at or above 1%.

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 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.

KCP&L developed projected RES expenditures and retail rate impact based on an average of the next ten years of non-renewable portfolio revenue requirements.

As indicated above, KCP&L performed the retail rate impact calculation for reporting purposes only using Staff's methodology as required by the Commission's order in Case No. ET-2014-0071. That Commission order, which is final and non-appealable, also provided that 1) KCP&L could suspend payment of solar rebates after making solar rebate payments of at least \$36.5 million after August 31, 2012 (which KCP&L will do in the near future), and 2) the retail rate impact methodology was still a matter in dispute among stakeholders and would be the subject of a future rulemaking proceeding (which has not yet occurred). For 2015, 2016 and 2017, respectively, that calculation produces ** [REDACTED] [REDACTED].** KCP&L asserts that Staff's methodology does not present an accurate and complete picture of the retail rate impact of KCP&L's spending on renewables for the following reasons:

- The above retail rate impact calculations do not take into account that KCP&L has paid close to \$36.5 million in solar rebates which is in compliance with the specified level as approved by the MPSC in Case No. ET-2014-0071 and is well in excess of 1% of its revenues.
- KCP&L's current rate case, Case No. ER-2014-0370, is based on annual recovery of renewable energy costs and reflects recovery of 1% of KCP&L's revenues.
- As shown by comparing Tables 2 and 3, KCP&L's renewable portfolio far exceeds the requirements of the statute.

When the above reasons are taken into consideration, KCP&L asserts that the rate impact of RES spending is at or above 1%.

3.3 RESOURCE PLAN SOURCES

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

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The KCP&L RES Compliance Plan includes wind and solar resource additions based upon the assumptions used in the 2015 KCP&L Triennial IRP (Case No. EO-2015-0254) filed on April 1, 2015. As indicated above, these renewable additions are not required for compliance in this 2015-2017 plan period, as instead they will be used to achieve future RES compliance.

3.4 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.

During the 2015-2017 RES Compliance Plan period, no additional renewable resources are required for compliance. The 10-year average non-RES compliant revenue requirement is based on the 2015 KCP&L Triennial IRP that includes the

expected value of greenhouse gas compliance costs. The variables used are those from the 2015 IRP.

3.5 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.

KCP&L is not proposing to add any incremental renewable energy resources directly attributable to RES compliance for the 2015-2017 RES Compliance Plan period.

3.6 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.

Solar rebates have been included in the analysis and are provided in the following table, along with solar build and administrative costs. The following table provides the projected amounts of renewable expenditures associated with the solar resources and rebates during the 2015-2017 Plan period. The solar rebates are in accordance with the Stipulation and Agreement filed October 3, 2013, Case Number ET-2014-0059.

Table 4: KCP&L Compliance Expenditures **Highly Confidential******

KCP&L COMPLIANCE EXPENDITURES						
Year	S-REC Cost	Solar Rebates	NAR Administration & Other	Utility Scale Solar Builds Revenue Requirement	Smart Grid Solar Revenue Requirement	Total
2015	N/A					
2016	N/A					
2017	N/A					

KCP&L’s current rate case, Case No. ER-2014-0370, is based on annual recovery of renewable energy costs and reflects recovery of 1% of KCP&L’s revenues.

As shown by comparing Tables 2 and 3, KCP&L’s renewable portfolio far exceeds the requirements of the statute.

3.7 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.

For the 2015-2017 RES Compliance Plan period, no additional renewable resources are required to meet the RES requirements, therefore no adjustments are necessary.

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3.8 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 renewable obligation at this time.