KCP&L GREATER MISSOURI OPERATIONS COMPANY (GMO)

2012 ANNUAL RENEWABLE ENERGY STANDARD COMPLIANCE PLAN

April 15, 2012

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SECTION 1: INTRODUCTION

KCP&L Greater Missouri Operations Company ("GMO"), 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] that became effective September 30, 2010. 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 GMO'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

GMO obtains renewable energy generated at the Gray County wind facility located in Kansas from a Purchase Power Agreement (PPA), and will continue to do so in the 2012-2014 Plan period. GMO purchases generation under this PPA based on approximately 60 MW of capacity. This wind energy has created a bank beginning in January 2008, with approximately 469,000 RECs attributable to Missouri customers at December 31, 2011 that GMO intends to use to comply with its 2012 RES requirements which are delineated in Table 2. Additionally, GMO entered into a PPA agreement with Ensign Wind, LLC, whose parent company is NextEra, to purchase energy from a 98.9 MW wind project also located in Gray County, Kansas. The facility is expected to be in service by December 31, 2012.

In addition, GMO completed a project in late 2011 to convert methane gas into electricity at the St. Joseph, MO Sanitary Landfill. The output from this 1.6 MW facility qualifies for RES compliance.

Accordingly, GMO expects to have banked RECs available to meet its RES requirements in 2013 and 2014 based on RECs unexpired at the end of 2012, along with continued generation approximating 195,000 MWh per year from the original Gray County facility. Generation from the Ensign facility is expected to be approximately 384,000 MWh per year beginning in 2013. Thus, no additional non-solar renewable energy resources are required by GMO to comply with Missouri RES requirements during the Plan period.

2.1.2 SOLAR COMPLIANCE

GMO continues to engage the energy markets to identify new or existing resource opportunities to meet its solar renewable requirements. A Request for Proposal (RFP) was issued to meet solar requirements on December 23, 2010. A single RFP was issued to cover both KCP&L and 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.

GMO 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 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 GMO's executed contracts to purchase renewable wind energy.

Table 1: GMO List of Executed Contracts for Renewable Wind Energy

GMO Renewable Wind Energy Contracts						
Project Name	Contracting Parent Company	Contract Type	Project Size (MW)	COD Date	Term (Yrs)	Expected Energy (MWh)
Gray County	NextEra	Energy & RECs	60	3/13/2001	15	195,000
Ensign	NextEra	Energy & RECs	98.9	12/31/2012	20	383,660

To comply with Missouri 2012 solar RES requirements, GMO 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 RULE (7) (B) 1 C:

The projected total retail electric sales for each year;

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

Table 2: GMO Retail Sales, RES Requirements and Compliance Plan

Year	Retail Electric Sales (MWh)	Non-Solar Req. (MWh)	GMO RECs (MWh)	Solar Req. (MWh)	GMO SRECs (MWh)
2008	9,057,067				
2009	7,868,208				
2010	8,339,054				
2011	8,194,746	160,617	434,300	3,278	3,387
2012	8,806,053	172,599	468,500	3,522	3,660
2013	8,905,773	174,553	529,900	3,562	3,700
2014	9,055,938	443,741	934,300	9,056	9,410

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;

GMO submitted a Preferred Resource Plan in Case EO-2012-0324 on April 9, 2012. There are no differences between GMO's RES compliance and the Preferred Resource Plan. The Preferred Resource Plan includes wind additions of 150 MW in 2019, 100 MW in 2021, and 100 MW in 2024. It should be noted that wind is based on nameplate capacity.

GMO's Preferred Resource Plan also includes the addition of solar capacity consisting of 10 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, GMO 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 PPA for the wind energy generated at Gray County being utilized for non-solar compliance has been in effect for several years prior to the passage of the RES rules and was economically justified at the time it was consummated. 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.

GMO submitted a Request for Proposal (RFP) to meet wind requirements in August 2011. A single RFP was issued to cover both KCP&L and GMO non-solar requirements. A complete evaluation of the proposals received was conducted and resulted in consummation of a PPA with NextEra Energy for the Ensign wind farm mentioned above. This PPA was entered into to take advantage of low-cost energy prices and to meet future GMO 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 GMO intends to purchase for compliance do not represent actual power delivery. For 2012, GMO will purchase approximately 3,600 RECs needed for compliance at a cost that is significantly less than the projected cost to add new solar capacity based on responses to the GMO 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 $41,000. 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 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;

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 GMO is provided below.

3-Year Average 1.18%

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 purchases of SRECs that will be used for GMO's RES solar compliance 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 Gray County and Ensign wind facilities are located in Kansas and are not owned by GMO, 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 GMO 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.

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 <u>RESOURCE PLAN SOURCES</u>

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.

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.

GMO does not have a federal obligation at this time