

**KCP&L GREATER MISSOURI  
OPERATIONS COMPANY (GMO)**

**2015 ANNUAL RENEWABLE ENERGY  
STANDARD COMPLIANCE PLAN**

**CASE NO. EO-2015-0266**

**April 22, 2015**



# TABLE OF CONTENTS

SECTION 1: INTRODUCTION .....	1
SECTION 2: RES COMPLIANCE PLAN.....	2
2.1    RULE (7) (B) 1 A:.....	2
2.1.1    NON-SOLAR COMPLIANCE .....	2
2.1.2    SOLAR COMPLIANCE .....	4
2.1.3    STANDARD OFFER CONTRACT .....	4
2.2    RULE (7) (B) 1 B:.....	4
2.3    RULE (7) (B) 1 C:.....	5
2.4    RULE (7) (B) 1 D:.....	6
2.5    RULE (7) (B) 1 E.....	6
2.5.1    THIRD PARTY SOLAR SREC PROCUREMENT.....	7
2.6    RULE (7) (B) 1 F.....	7
2.7    RULE (7) (B) 1 G.....	7
SECTION 3: RATE ANALYSIS.....	8
3.1    RETAIL RATE IMPACT.....	8
3.2    TOTAL REVENUE REQUIREMENTS .....	10
3.3    RESOURCE PLAN SOURCES .....	11
3.4    ANALYSIS DATA SOURCE .....	12
3.5    RATE IMPACT COMPARISON .....	13
3.6    REBATES .....	13
3.7    ADJUSTMENTS.....	14
3.8    FEDERAL PROGRAM COSTS .....	14

## TABLE OF TABLES

Table 1: GMO List of Executed Contracts for Renewable Wind Energy <b>**Highly Confidential**</b> .....	5
Table 2: GMO Projected Retail Sales and RES Requirements <b>**Highly Confidential**</b> .....	6
Table 3: GMO Compliance Expenditures <b>**Highly Confidential**</b> .....	13

## **SECTION 1: INTRODUCTION**

KCP&L Greater Missouri Operations Company (“GMO”), a Delaware 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-2014-0059. 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 presents GMO'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**

GMO obtains renewable energy generated at the Gray County wind facility located in Kansas under a Power Purchase Agreement (PPA) and will continue to do so during the 2015-2017 RES Compliance Plan period. GMO purchases generation

under this PPA based on 60 MW of capacity expiring in November 2016. A new PPA has been executed for 15 years for 110 MW of capacity. This additional 50 MW of capacity is dependent upon obtaining acceptable firm transmission service. Additionally, GMO executed a PPA 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. This facility went into service November 22, 2012.

GMO also 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; the estimated 2015 generation from the facility is approximately 11,000 MWh.

The estimated 2015 combined generation from the Gray County, Ensign, and the St. Joseph landfill gas facility is approximately 640,000 MWh. The wind generation output could be impacted by available firm transmission service.

GMO 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 and landfill gas facilities' actual generation. Accordingly, the RECs generated from these renewable resources in addition to the banked RECs will fulfill GMO's Missouri RES non-solar requirements for the 2015 to 2017 RES Compliance Plan period shown in Table 2 below.

\*\* [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] \*\*

HC

### **2.1.2 SOLAR COMPLIANCE**

GMO anticipates that the acquisition of Solar Renewable Energy Credits (SRECs), principally from GMO 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 GMO 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 GMO for a period of 10 years.

Additionally, in 2016 GMO expects to add 5 MW of solar resources consisting of 2 MW Commercial and Industrial rooftop installations and 3 MW of a central station solar facility owned by GMO. Generation from these GMO installations would be eligible for application of the additional twenty-five hundredths (0.25) credit as these facilities will be located in Missouri.

GMO 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**

GMO 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 1 below provides the details of GMO's executed contracts to purchase wind energy.

**Table 1: GMO List of Executed Contracts for Renewable Wind Energy**  
**\*\*Highly Confidential\*\***

Project Name	Contracting Parent Company	Contract Type	Project Size (MW)	COD Date	Term (Yrs.)	Expected Annual Energy (MWh)
Gray County	NextEra	Energy & RECs	60	3/13/2001	15	210,000
Gray County	NextEra	Energy & RECs	110*	3/13/2001	15*	290,000
Ensign	NextEra	Energy & RECs	98.9	11/22/2012	20	420,000
*Renewed for 15 years -- at 110 MW presuming firm transmission service is available						

This expected annual energy reflects available transmission and interconnection capacity. Note this output is significantly above what is expected to be needed for non-solar RES compliance.

To comply with the Missouri 2015-2017 solar RES requirements, GMO 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;***

GMO's projected Missouri retail electric sales and associated RES requirements are provided in Table 2 below.

HC

**Table 2: GMO Projected Retail Sales and RES Requirements **\*\*Highly Confidential\*\*****

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

**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 parallels GMO’s 2015 Triennial Preferred Plan filed April 1, 2015 under Case EO-2015-0252.

**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 60 MW Gray County wind PPA being utilized for non-solar compliance was in effect for several years prior to the passage of the RES rules and was justified at the time it was executed. Since this facility is already in place, the wind energy provided by this resource represents the least cost approach for achieving non-solar compliance for the 2015-2017 RES Compliance Plan period. As indicated above, a new PPA for Gray County wind has been executed for 15 years having a capacity of 110 MW.

Additionally, in August 2011 an RFP was issued to cover both KCP&L and GMO non-solar requirements. A complete evaluation of the proposals received was

HC

conducted and resulted in execution of a PPA with NextEra Energy for the Ensign wind facility mentioned above. The new PPA and Gray County PPA renewal were entered into to take advantage of low-cost energy prices and will also be used to meet GMO non-solar RES requirements.

### **2.5.1 THIRD PARTY SOLAR SREC PROCUREMENT**

GMO 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 be owned by GMO.

### **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 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.

GMO 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. GMO 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-2014-0059 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. GMO has performed this rate impact calculation in accordance with the Stipulation and Agreement filed October 3, 2013, Case Number ET-2014-0059. The calculations were completed consistent with GMO'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. GMO 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, GMO 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-2014-0059. That Commission order, which is final and non-appealable, also provided that 1) GMO could suspend payment of solar rebates after making solar rebate payments of at least \$50 million after August 31, 2012 (which GMO has done), 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] \*\*. GMO asserts that Staff's methodology does not present an accurate and complete picture of the retail rate impact of GMO's spending on renewables for the following reasons:

- The above retail rate impact calculations do not take into account that GMO has paid more than \$50 million in solar rebates which is in excess of

HC

the specified level as approved by the MPSC in Case No. ET-2014-0059 and is well in excess of 1% of its revenues.

- GMO initiated a RESRAM in 2014 based on annual recovery of renewable energy costs and reflects recovery of 1% of GMO's revenues reported in its last rate case.
- As shown by comparing Tables 1 and 2, GMO's renewable portfolio far exceeds the requirements of the statute.

When the above reasons are taken into consideration, GMO 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.***

GMO 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, GMO 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-2014-0059. That Commission order, which is final and non-appealable, also provided that 1) GMO could suspend payment of solar rebates after making solar rebate payments of at least \$50 million after August 31, 2012 (which GMO has done), 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] \*\* GMO asserts that Staff's methodology does not present an accurate and complete picture of the retail rate impact of GMO's spending on renewables for the following reasons:

- The above retail rate impact calculations do not take into account that GMO has paid more than \$50 million in solar rebates which is in excess of the specified level as approved by the MPSC in Case No. ET-2014-0059 and is well in excess of 1% of its revenues.
- GMO initiated a RESRAM in 2014 based on annual recovery of renewable energy costs and reflects recovery of 1% of GMO's revenues reported in its last rate case.
- As shown by comparing Tables 1 and 2, GMO's renewable portfolio far exceeds the requirements of the statute.

When the above reasons are taken into consideration, GMO 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.***

HC

The GMO RES Compliance Plan includes wind and solar resource additions based upon the assumptions used in the 2015 GMO Triennial IRP (Case No. EO-2015-0252) 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 were required for compliance. The 10-year average non-RES compliant revenue requirement is based on the 2015 GMO Triennial IRP that includes the

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

GMO 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 were included in the analysis as applicable and are in accordance with the Stipulation and Agreement filed October 3, 2013, Case Number ET-2014-0059. The following table provides the projected amounts of administrative costs and expenditures associated with the renewable resources and rebates during the 2015-2017 plan period.

**Table 3: GMO Compliance Expenditures <sup>\*\*Highly Confidential\*\*</sup>**

GMO COMPLIANCE EXPENDITURES						
Year	S-REC Cost	Solar Rebates	NAR Administration & Other	Utility Scale Solar Builds Revenue Requirement	SJLP LFG Revenue Requirement	Total
2015	N/A	\$ -				
2016	N/A	\$ -				
2017	N/A	\$ -				

HC

GMO initiated a RESRAM in 2014 based on annual recovery of renewable energy costs and reflects recovery of 1% of GMO's revenues reported in its last rate case.

As shown by comparing Tables 1 and 2, GMO'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.

### **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.***

GMO does not have a federal renewable obligation at this time.