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Ameren Missouri

Renewable Energy Standard
Compliance Plan
2012-2014

Prepared in Compliance with 4 CSR 240-20.100

April 16, 2012

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Reference Table

Introduction

The Missouri Renewable Energy Standard (RES) began as a public initiative and was placed on the Missouri ballot during the November 4, 2008 election. Labeled as Proposition C, it requires the three investor owned utilities (IOUs) in the state (Ameren Missouri, Empire District and Kansas City Power & Light) to procure renewable energy resources as a percentage of the total retail sales that each utility makes to its customers in the state.

After an extensive rule making process involving stakeholders from the Missouri Public Service Commission, the PSC staff, Office of Public Council, MIEC, MEDA, the three IOUs, various wind, solar and biomass developers, etc., the Public Service Commission published final rules on July 7, 2010.

As part of the statute and rule making, Section (7) (B) requires that the IOUs file a plan that covers their intended compliance measures for the current year plus the immediately following 2 years.

There are two basic forms of compliance that are required under the RES. Compliance with what we term the "non-solar" RES relates to compliance using renewable energy credits (RECs) and/or actual energy that includes the RECs from all forms of qualified renewable generation resources (wind, hydro, biomass, etc.) as certified by the Missouri Department of Natural Resources (DNR). There is a separate component, the "solar" RES that requires compliance which can only be met with solar RECs or actual energy that includes the REC from solar generation resources.

The following table details the renewables percentage requirements of the retail electric sales for the non-solar and solar RES:

Time Period	Non-Solar	Solar*
2011-2013	2%	2%
2014-2017	5%	2%
2008-2020	10%	2%
2021-forward	15%	2%

*(Solar percentages are applied to the non-solar RES amounts)

As referenced above, the DNR is responsible for determining all eligible renewable resources that can be utilized by the IOUs in meeting the requirements of the RES. DNR rule 10 CSR 140-8.010 (2), contains the list of all eligible renewable resources allowed to meet the compliance with the RES.

Ameren Missouri's compliance with the RES, as demonstrated in this report, adheres to the use of only those renewable resources as currently defined by the above referenced rule.

In addition, the RES rules allow for the banking of RECs for up to a three year time period. This will allow for the use of eligible RECs generated from January 1, 2009 to the current time period in meeting the RES requirements for calendar year 2012.

Any generation and/or RECs from a Missouri renewable resource are entitled to a factor of 1.25 applied to each MWh.

The following information in this report will demonstrate the specific means by which Ameren Missouri intends to meet its obligations under both the non-solar and solar RES for the calendar years 2012-2014. A part of each section will address the necessary information required for each individual year.

Planned RES Compliance
Section (7) (B) 1 A

2012

Non-Solar RES

Ameren Missouri currently operates or has contracted for generation with the following eligible renewable resources:

- Keokuk Hydro-electric Generation Station
- Horizon Pioneer Prairie Wind Farm

The Ameren Missouri Keokuk Hydro-electric Generation Station is located on the Mississippi River in Keokuk, Iowa. The station consists of 15 separate generators. The individual nameplate ratings range from 7.2 to 8.8 MWs.

This generation facility is wholly owned by Ameren Missouri and has been operational since 1913.

In June, 2009 Ameren Missouri and Pioneer Prairie Wind Farm I LLC entered into a 15 year power purchase agreement. Ameren Missouri is purchasing 102.3 MWs of nameplate generation from the Pioneer Prairie Wind Farm consisting of 65 turbines, located in north east Iowa. The facility site covers approximately 10,000 acres located in Mitchell County, Iowa in Wayne and Stacyville Townships.

In the third quarter of 2012, Ameren Missouri's Maryland Heights Renewable Energy Center will become operational, producing renewable energy from methane gas at a local landfill. This generation facility will utilize 3 (4.9 MW) gas turbines specifically designed to be fueled with methane gas captured from landfill operations.

This facility is expected to generate between 35,000 – 41,000 MWhs in CY 2012. In the following years, this facility is expected to gradually increase generational capabilities, reaching approximately 96,400 MWhs annually.

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Banked RECs

In accordance with 4 CSR 240-20.100 Section (3) (F), which requires that utilities utilize a commission designated central third-party registry for REC accounting, the North American Renewable Registry (NAR) was selected to be utilized by the IOUs in Missouri.

RECs from the above referenced generators, covering the 2009-2011 time periods, were registered and placed in the Ameren Missouri account with NAR.

Ameren Missouri
NAR Account
REC Balance

Period of Generation	Keokuk	Pioneer Prairie
1/1/09-12/31/09	949,909	88,023
1/1/10-12/31/10	930,246	294,696
1/1/11-12/31/11	910,448	288,483

During the CY 2012, Ameren Missouri anticipates that the Keokuk facility will add approximately 910,000 MWhs while Pioneer Prairie will add approximately 290,000 MWhs and the Maryland Heights Renewable Energy Center approximately 41,000 MWhs to the NAR account.

Planned Actions

For the 2012 compliance year, Ameren Missouri will utilize RECs banked in its NAR account from the generational output of the Keokuk and Pioneer Prairie facilities. Ameren Missouri will continue to place RECs into the NAR account associated with the actual 2012 generation from Keokuk, Maryland Heights and the Pioneer Prairie facilities.

2012

Solar RES

During CY 2011, Ameren Missouri completed the following transactions in order to meet its 2011 solar compliance requirements:

Transaction	Vintage	Quantity S-RECs
SunEdison	2011	2,000
	2012	4,000
Black Hills Power	2011	1,000
3 Degrees	2010	4,100
	2011	400
	2011	5,900
Total		17,400

The above quantity of S-RECs has also been placed into Ameren Missouri's NAR account except for 4000 S-RECs vintage CY 2012 from SunEdison which will be transferred to Ameren Missouri by 12/31/12.

In conjunction with the above purchases, in late 2010, Ameren Missouri completed the installation of approximately 100 kW of solar generation capacity at its headquarters facility located in St. Louis.

This multi-technology installation produced 113 MWhs of solar generation in CY 2011. In accordance with RSMo 393.1030, this generation is entitled to the 1.25 factor for a Missouri facility such that the S-RECs are equivalent to 141 MWhs. All generation from this facility will be utilized towards the solar requirements of the RES.

In addition, Ameren Missouri filed a Standard Offer Contract tariff with the PSC in November, 2010. This tariff became effective on January 1, 2011. Under the terms of the tariff, Ameren Missouri bought S-RECs from its electric customers who installed or are installing net metered solar facilities (100 kW or less) at their homes and/or businesses. The price per S-REC was $100 and the program was funded to a total of $2.0 million. The program was fully subscribed in 2011. Based on the success of the program a revised tariff was filed in November, 2011 with additional funding of $2.0 million to continue the purchase of S-RECs from customers during the 2012 calendar year. Due to various factors influencing pricing for installations, the price per S-REC has been reduced to $50.

All S-RECs associated with the customer installed net metered systems, as well as the generation at the Ameren Missouri headquarters facility are entitled to the 1.25 factor as they represent Missouri based generation.

Through December 31, 2011 Ameren Missouri had contracted with 208 customers representing 1,060 S-RECs eligible for use in CY 2011 which will count as 1,325 due to the in-state factor.

Planned Actions

For the 2012 compliance year Ameren Missouri will use S-RECs that have been banked through the purchases with SunEdison, Black Hills Power, and 3 Degrees.

During CY 2012, Ameren Missouri will continue its evaluation of a potential utility scale solar generation project that would be built at one of its existing generating facilities. Cost, construction potential, siting and permitting requirements, etc., will be evaluated in order to determine future options in meeting the solar RES requirements.

Throughout the calendar year, Ameren Missouri will continue to accept and evaluate unsolicited proposals from solar developers.

2013

Non-Solar RES

Ameren Missouri will continue to generate renewable energy and bank the associated RECs from the Keokuk Hydro-electric Generation Station, the Maryland Heights Renewable Energy Center and the Horizon Pioneer Prairie Wind Farm.

Banked RECs

During CY 2013, in addition to the expected 96,400 MWhs of generation from the Maryland Heights operation, Ameren Missouri anticipates that the Keokuk facility will add approximately 920,000 MWhs while Pioneer Prairie will add approximately 290,000 MWhs to the NAR account. All amounts associated with generation from the Maryland Heights operation are eligible for the 1.25 factor as these hours come from a Missouri resource.

Planned Actions

For the 2013 compliance year, Ameren Missouri will continue to draw upon its bank of RECs that it will have accumulated through the contributions from generation at the Keokuk, Pioneer Prairie and Maryland Heights facilities.

2013

Solar RES

The combination of generation from its solar installation at the company headquarters, along with customer and third party procured S-RECs represents the basis by which Ameren Missouri intends to meet its solar compliance requirements for CY 2013.

Should the results of the company analysis from 2012 justify construction, Ameren Missouri intends to begin construction of a utility scale solar generation station at one of its existing generation facilities in the first quarter of 2013. The intent is such that the facility would be fully operational by the end of the calendar year.

2014

Non-Solar RES

In CY 2014, Ameren Missouri will be receiving full generation from the Keokuk Hydro-electric Generating Station, Pioneer Prairie Wind Farm and the Maryland Heights landfill gas generating facility.

Banked RECs

During CY 2014, Ameren Missouri anticipates that the Keokuk facility will add approximately 920,000 MWhs, Pioneer Prairie will add approximately 290,000 MWhs and the Maryland Heights operation will add approximately 96,400 MWhs of generation to the NAR account. The generation from the Maryland Heights facility will have a factor of 1.25 applied since it is from a Missouri based resource.

Planned Actions

For the 2014 compliance year, Ameren Missouri will continue to draw upon its bank of RECs that it will have accumulated through the contributions from generation at the Keokuk, Pioneer Prairie and Maryland Heights facilities.

2014

Solar RES

During CY 2014, Ameren Missouri will continue to use S-RECs acquired from customers under the previously issued Standard Offer Contracts as well as from generation from the solar installation located at its headquarters building. Should approval and construction of a utility scale solar generation facility have taken place in CY 2013, then Ameren Missouri will also be utilizing the S-RECs from such generation. Generation from all such means would be eligible for the 1.25 factor application as all the facilities would be located in Missouri. The balance of needs would come from procurement of S-RECs through third party brokers regardless of whether a utility scale solar generation project is built by Ameren Missouri.

List of Executed Contracts
Section (7) (B) 1 B

The following provides a basic summary of contracts which are being utilized by Ameren Missouri to procure certified RECs as well as RECs with associated energy.

Non-Solar RES

Ameren Missouri has executed only one third party contract associated with the purchase and delivery of renewable energy to the Ameren Missouri system that is being used to meet the non-solar RES compliance provisions. This is a 15 year power purchase agreement between Ameren Missouri and Horizon's Pioneer Prairie Wind Farm.

Solar RES

Ameren Missouri has executed a total of five purchase agreements during CY 2010-2011 whereby solar RECs have been procured to meet the 2011-2013 requirements.

Contracts have been executed with Sun Run, 3 Degrees, Sun Edison and Black Hills Power.

Through year end 2011, Ameren Missouri executed 208 agreements with its customers who have installed small scale solar net metered systems and have chosen to accept the terms and conditions of the Standard Offer Contract. Additional contracts will be entered into with customers who install solar generation during CY 2012 under the terms and conditions of the exiting Standard Offer Contract tariff that became effective January 1, 2012.

A contract summary of all currently executed agreements that are being utilized to meet compliance with the provisions of 4 CSR 240-20.100 is included in **Table 1** attached.

Projected Retail Sales
Section (7) (B) 1 C

The attachment in **Table 2** demonstrates the current forecasted total retail electric sales by year and the corresponding portfolio requirements in MWhs for both the non-solar and solar RES.

Comparison to Preferred Resource Plan
Section (7) (B) 1 D

The RES Compliance Plan detailed in this report, mirrors the renewables plan in the 2011 Integrated Resource Plan filed by Ameren Missouri on Feb. 23, 2011. The compliance actions listed in this RES Compliance Plan demonstrate the continuous planning addressed in the IRP regarding the potential for developing an Ameren Missouri owned solar generation facility.

Ameren Missouri has begun an engineering review and study to assess the economic and operational aspects of utility scale solar generation at one of its existing power plant sites. Should the results of that study indicate that such a project is warranted, Ameren Missouri could potentially have such a facility operational by the end of CY 2013.

RES Compliance Plan Cost
Section (7) (B) 1 E

The ability to utilize renewable resources that currently exist in rate base, places Ameren Missouri and its rate payers in a unique position regarding compliance cost. As stipulated in the statute and rule, though the megawatt hours from these renewable resources can be utilized to meet the compliance requirements, some costs were incurred prior to the compliance requirements and are already included in the current rate base. Consequently, these particular renewable resources will have no cost implications towards meeting the specifics of the RES and therefore will result in no cost impact to the plan or the rate cap limitation of 1%.

The cost of the RES Compliance Plan for 2012 is therefore comprised of the following items:

Purchase of solar RECs from 3rd parties
Purchase of solar RECs from residential and commercial customers
Issuance of solar rebates
Purchase of RECs and power from Horizon Wind
Completion of the Maryland Height Renewable Energy Center
Gas supply agreement with IESI
Cost to register RECs with the North American Renewable Registry

Details related to the cost of each component are included in **Table 3**.

3rd Party Solar REC Procurement

The market price for solar RECs varies significantly across the continental U.S. Ameren Missouri's procurement of solar RECs, at an average price of [redacted] per solar REC, to meet the requirements of the RES represents the least cost basis for meeting the compliance requirements at the current time. Due to the limited amount of solar RECs from customer installations and the Ameren Missouri installation at its headquarters facility, the procurement of solar RECs from 3rd party marketers also represents the primary means in which to meet the compliance requirements.

Standard Offer Contract

The price per REC ($50 per MWh) offered under the Ameren Missouri Standard Offer Contract was determined by taking into account the total cost to install solar in the region, the rebate required by statute and the eligibility for the Federal tax credit. Total funding for the program was capped at $2.0 million.

Solar Rebates

Solar rebates are required by statute at $2.00 per watt and are limited to an individual maximum of $50,000. The number of rebates issued through December 31, 2011 totals 226 for $2,964,306. Total rebates issued since the requirements began under the MoRES total $3,452,088 through December 31, 2011.

Ameren Missouri Headquarters-Solar Installation

Construction of a multi-technology solar array was completed in December, 2010. The primary objectives for this installation are:

- Provide customers with accurate cost data for the various technologies
- Determine operational efficiencies between the technologies
- Familiarize Ameren Missouri personnel with operational information related to solar generation
- Utilize generation to help meet the solar RES requirements

Because the basic technologies employed for solar generation are the same whether used for residential or utility scale, the information that will be provided by this installation regarding capital, maintenance, labor, installation and other operational costs will prove beneficial in determining any advantages in constructing a utility scale generation project to meet the compliance requirements.

REC Registration Fees

In accordance with 4 CSR 240-20.100 Section (3) (F), utilities are to use a commission designated common central third party registry for REC accounting of the RES requirements. The North Ameren Renewable Registry (NAR) was selected by the commission for this purpose.

Tracking and registration fees are charged by NAR for all RECs deposited and then retired from the utilities' accounts. This administration cost is detailed in **Table 3** attached.

The total O&M and Capital Costs incurred for compliance with the RES during CY 2012 are as detailed in **Table 3**.

During CY 2012, final capital costs associated with the Maryland Heights Landfill Gas project will be incurred along with the first operational and maintenance costs. The first gas delivery charges will also be incurred in CY 2012. Those costs have been estimated for CY 2012 through CY 2014 and included in **Table 3**.

RES Retail Rate Impact
Section (7) (B) 1 F

As established in Case No. ER 2011-0028, the total annual base rate revenue requirement for Ameren Missouri is $2.61 billion. The application of a 1% rate increase would equate to a rate impact of $26.1 million.

As demonstrated in Table 3, the costs affecting the annual rate impact are well below $26.1 million.

Compliance with Air, Water or Land Use Requirements

Section (7) (B) 1 G

All generating facilities utilized by Ameren Missouri to meet the requirements of the Missouri Renewable Energy Standard have been certified by the Missouri Department of Natural Resources in accordance with 10 CSR 140-8.010 (4).

Table 1
List of Executed Contracts

Ameren Missouri
Renewable Energy Compliance Plan
2012-2014
Executed Renewable Energy Contracts

Contracting Party	Resource Type	Contract Type	Contract Duration	Time Period	Expected Amount	Terms
Horizon Pioneer Prairie	Wind	Energy & RECs	9/1/09-8/31/24	2012 2013 2014	290,000 290,000 290,000	Deliveries of energy and RECs began 9/1/09 Term is 15 years with option to extend based on mutually acceptable terms and conditions.
Sun Edison	Solar	REC only	1 year	2011 2012	2,000 4,000	Vintage 2010-2011 solar RECs
3 Degrees	Solar	REC only	1 year	2010 2011	4,100 6,300	Total of 4000 vintage 2010 solar RECs and 6300 vintage 2011 solar RECs
Black Hills Power	Solar	REC only	1 year	2011	1,000	Total of 1000 vintage 2010 solar RECs
Various Residential and Commercial Customers	Solar	REC only <10kW	10 year	2012 2013 2014	2,800 4,200 4,200	Customers installing solar electric systems that are sized less than 10 kW may sell S-RECs for $50 per REC on a 10 year up front basis. The number of RECs is calculated based on system size applied to an industry calculator :PVWatts
Various Residential and Commercial Customers	Solar	REC only >10kW/<25 kW	5 year	2012 2013 2014	1,400 1,500 2,200	Customers installing solar electric systems that are sized greater than 10 kW but less than 100 kW may sell S-RECs for $50 per REC on a 5 year basis based on actual generation from their metered output.
Various Residential and Commercial Customers	Solar	REC only >25 kW/<100kW	5 year	2012 2013 2014	400 900 1,400	Customers installing solar electric systems that are sized greater than 10 kW but less than 100 kW may sell S-RECs for $50 per REC on a 5 year basis based on actual generation from their metered output.

Note: All S-RECS procured from customers are entitled to the additonal factor of 1.25
Expected amounts from customers for 2012-2014 anticipate continued participation by customers with the Standard Offer Contract tariff.

Table 2
Forecasted Retail Electric Sales
And RES Requirements

Ameren Missouri
Projected Retail Electric Sales
Missouri Renewable Energy Standard

Year	Customer Forecast (MWH) Total Load	Renewable Requirement (%)	Renewable Requirement (MWH)	Solar Requirement (%)	Non-Solar Renewables Requirement
2012	37,353,562	2	747,071	14,941	732,130
2013	37,701,371	2	754,027	15,081	738,947
2014	37935247	5	1,896,762	37,935	1,858,827

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Table 3
RES Compliance Plan Cost
Actual and Projected
2009-2014

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Table 4
Preferred Resource Plan Summary
2012-2014

Year	Generation Resources	Resource Type	Solar Resources
2012	Keokuk	Hydro	Customer Owned
	Pioneer Prairie	Wind	Ameren GOB
	Maryland Heights	Landfill Gas	3rd party
2013	Keokuk	Hydro	Customer Owned
	Pioneer Prairie	Wind	Ameren GOB
	Maryland Heights	Landfill Gas	3rd party
2014	Keokuk	Hydro	Customer Owned
	Pioneer Prairie	Wind	Ameren GOB
	Maryland Heights	Landfill Gas	3rd party

Table 5
RES Compliance Plan Summary
2012-2014

Year	Generation Resources	Resource Type	Solar Resources
2012	Keokuk	Hydro	Customer Owned
	Pioneer Prairie	Wind	Ameren GOB
	Maryland Heights	Landfill Gas	3rd party
2013	Keokuk	Hydro	Customer Owned
	Pioneer Prairie	Wind	Ameren GOB
	Maryland Heights	Landfill Gas	3rd party
2014	Keokuk	Hydro	Customer Owned
	Pioneer Prairie	Wind	Ameren GOB
	Maryland Heights	Landfill Gas	3rd party
			Potential for Ameren Missouri owned utility scale