Exhibit No.:	
Issues:	RES Retail Rate Impact
Witness:	Claire M. Eubanks
Sponsoring Party:	MO PSC Staff
Type of Exhibit:	Rebuttal Testimony
Case No.:	ET-2014-0085
Date Testimony Prepared:	October 25, 2013

MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

REBUTTAL TESTIMONY

OF

CLAIRE M. EUBANKS

UNION ELECTRIC COMPANY
d/b/a AMEREN MISSOURI

CASE NO. ET-2014-0085

Jefferson City, Missouri
October 2013

**** Denotes Highly Confidential Information ****

NP

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Ameren Missouri's Application for Authorization to Suspend Payment of Solar Rebates	)))	Case No. ET-2014-0085

AFFIDAVIT OF CLAIRE M. EUBANKS

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Claire M. Eubanks, of lawful age, on her oath states: that she has participated in the preparation of the following Rebuttal Testimony in question and answer form, consisting of 13 pages of Rebuttal Testimony to be presented in the above case, that the answers in the following Rebuttal Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true to the best of her knowledge and belief.

Claire M Eubanks
Claire M. Eubanks

Subscribed and sworn to before me this 25th day of October, 2013.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L Sundermeyer
Notary Public

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REBUTTAL TESTIMONY

OF

CLAIRE M. EUBANKS

UNION ELECTRIC COMPANY
d/b/a AMEREN MISSOURI

CASE NO. ET-2014-0085

REBUTTAL TESTIMONY

OF

CLAIRE M. EUBANKS

UNION ELECTRIC COMPANY
d/b/a AMEREN MISSOURI

CASE NO. ET-2014-0085

Q. What are your name and business address?

A. Claire M. Eubanks, P.O. Box 360, Jefferson City, Missouri, 65102.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Public Service Commission ("Commission") as a Utility Regulatory Engineer I in the Engineering Analysis Section, Energy Infrastructure Reliability Unit of the Tariff, Safety, Economic and Engineering Analysis Department in the Regulatory Review Division.

Q. What are your educational and work backgrounds?

A. I received my Bachelor of Science degree in Environmental Engineering from the University of Missouri – Rolla "UMR", now referred to as Missouri University of Science and Technology ("S&T"), in May 2006. I am a licensed professional engineer in the states of Missouri and Arkansas. Immediately after graduating from UMR, I began my career with Aquaterra Environmental Solutions, Inc. ("Aquaterra"), now SCS Aquaterra, an engineering consulting firm based in Overland Park, Kansas. During my time with Aquaterra, I worked on various engineering projects related to the design, construction oversight, and environmental compliance of solid waste landfills. I began my employment with the Commission in November 2012.

Q. Are you a member of any professional organizations?

A. Yes, I am a member of the Missouri Society of Professional Engineers.

Q. Have you previously testified before the Commission?

A. Yes. I have prefiled rebuttal testimony in Case Nos. EA-2012-0281, EC-2013-0379, ET-2014-0059 and ET-2014-0071.

Q. What is the purpose of your rebuttal testimony in this case?

A. I explain Staff's recommendation to the Commission regarding when Ameren Missouri should stop paying solar rebates and I provide Staff's response to Ameren Missouri's witness Mr. Michels regarding the calculation of the Renewable Energy Standard ("RES") retail rate impact ("RRI") for Ameren Missouri in compliance with Commission Rule 4 CSR 240-20.100(5).

Q. What is Staff's recommendation to the Commission?

A. Staff recommends the Commission deny Ameren Missouri's request to suspend solar rebate payments in 2013 when solar rebate payments reach $18,811,454.

Q. Why?

A. Ameren Missouri's payments and projections for solar rebates in calendar year 2013 will not exceed the retail rate impact limit at any point in 2013, unless renewable energy credits ("RECs") from its Pioneer Prairie wind farm purchased power agreement are treated as RES compliance costs. Because Ameren Missouri had Pioneer Prairie under contract before the September 30, 2010 effective date of rule 4 CSR 240-20.100, rule 4 CSR 240-20.100(5)(A) prevents the costs of Pioneer Prairie from being included in calculating the RES retail rate impact, and Staff sees no reason why the Commission should allow Ameren Missouri not to comply with that rule. Further, Rule 4 CSR 240-20.100 (1)(N)

defines RES compliance costs as "…prudently incurred costs, both capital and expense, directly related to compliance with the Renewable Energy Standard." Ameren Missouri committed to integrating 100MW of wind generation into its generation portfolio several years prior to the passage of Proposition C, Sections 393.1025 and 393.1030, RSMo, by voter initiative on November 4, 2008.

Q. What are the issues in this case?

A. As outlined in the Direct Testimony of Ameren Missouri's witness Mr. Michels there are four issues: (1) what resources should be included or excluded from the non-renewable portfolio, (2) whether Ameren Missouri should be granted relief from rule 4CSR 240-20.100(5)(A) to allow it to include Pioneer Prairie Wind Farm ("Pioneer Prairie") RECs in the RES-compliant portfolio, (3) Ameren Missouri's "carry-over" proposal, and (4)scaling down of RES compliance costs.

Q. What is Staff's recommendation to the Commission regarding the issues presented by Ameren Missouri?

A. Staff recommends the Commission find that:

- Ameren Missouri's RRI calculation is deficient in that Ameren Missouri has inappropriately included renewable resources in its non-renewable portfolio;
- Ameren Missouri has not shown good cause for the requested waiver to include the costs associated with Pioneer Prairie as a RES compliance cost;
- Ameren Missouri's "carry-over" proposal is non-compliant with the current RES rule and should be considered during the workshop in File No. EW-2014-0092 and any subsequent rulemaking; and

- A decision on how to scale back renewable resources due to the retail rate impact (RRI) limitation is not necessary for this case.

Q. Will you be addressing all of these issues in your rebuttal testimony?

A. No. Staff witness Mark L. Oligschlaeger will address the issue concerning Ameren Missouri's carry-forward proposal in his rebuttal testimony.

Q. Has Ameren Missouri changed its RRI calculation since filing its 2013 RES Compliance Plan?

A. Yes. Ameren Missouri's witness Mr. Michels explains why Ameren Missouri changed the RRI calculation from its 2013 RES Compliance Plan on page 5, lines 15-22, of his direct testimony filed in this docket. He states that Ameren Missouri adopted in part Staff's recommended changes from Staff's report in File No. EO-2013-0503.

Q. In File No. EO-2013-0503, Staff noted Ameren Missouri's original calculation of the RRI in File No. EO-2013-0503 was deficient in that proceeding, did it not?

A. Yes, Staff noted three ways it was deficient.

Q. Does Ameren Missouri's calculation of the RRI in this case have the same deficiencies?

A. Ameren Missouri has addressed one of the deficiencies noted by Staff in File No. EO-2013-0503. However, there are two deficiencies that are still applicable despite Ameren Missouri's changes to its RRI calculation. The two remaining deficiencies are related to issues 1 and 2 described above. Specifically, Ameren Missouri's calculation is deficient in the following ways: (1) its inclusion of renewable resources in its determination of the non-renewable portfolio, and (2) its inclusion of pre-existing renewable resources in its RES-compliant portfolio.

NON-RENEWABLE PORTFOLIO DEFICIENCY

Q. Why is the non-renewable portfolio Ameren Missouri used for its RRI calculation deficient?

A. Ameren Missouri included its Keokuk hydroelectric facility and its Pioneer Prairie wind farm PPA in its non-renewable portfolio.

Q. What does the Commission's rule state about the make-up of the non-renewable portfolio?

A. The non-renewable portfolio is a hypothetical portfolio of solely non-renewable resources.[1] The non-renewable portfolio should consist of all of the utility's existing non-renewable resources, but not its existing renewable resources as defined in Rule 4 CSR 240-20.100(1)(K). If by excluding existing renewable resources the utility determines it will not meet its generation needs over the succeeding ten- (10-) year planning period, then additional non-renewable resources are added to the non-renewable portfolio. The non-renewable portfolio revenue requirement would also include the expected value of greenhouse gas emissions compliance costs.

Q. Mr. Michels states in his direct testimony that "for purposes of the RRI calculation, "pre-existing" renewable resources are treated as if they are not renewable"[2], does Staff agree?

A. No, it does not. Mr. Michels explains "4 CSR 240-20.100(5)(A), explicitly states that renewable energy resources owned or under contract prior to the effective date of this rule are to be excluded from the retail rate impact calculation."[3] The non-renewable portfolio is as much of a part of the RRI calculation as the RES-compliant portfolio is,

[1] EX-2010-0169, Final Order Rule 4 CSR 240-20.100, Page 21.
[2] Direct Testimony of Mr. Michels, Page 9. Lines 12-14.
[3] Direct Testimony of Mr. Michels, Page 9. Lines 10-12.

therefore, Keokuk and Pioneer Prairie, both of which are pre-existing renewable resources, should be excluded from both the non-renewable portfolio and the RES-compliant portfolio.

Q. How does excluding existing renewable resources affect the calculation of the RRI in comparison to leaving them in?

A. If excluding existing renewable resources results in a utility being unable to meet its needs over the succeeding ten- (10-) year period, then additional non-renewable resources must be added. This may cause the annual retail rate limit to be higher than it would be if those existing renewable resources are included in the non-renewable portfolio. Additionally, if those existing renewable resources are fully depreciated at the current time, exclusion of those resources from the RRI calculation should also increase the revenue requirement of the non-renewable portfolio.

Q. How does excluding Keokuk from Ameren Missouri's non-renewable portfolio affect the RRI calculation result?

A. Staff requested the projected revenue requirement for Keokuk over the 10-year planning period in Staff Data Request 1. Ameren Missouri has not developed a revenue requirement for Keokuk for the 2013 through 2022 planning period; therefore, Staff does not know the exact impact removing this resource will have on the RRI limit. However, Staff expects that this exclusion will increase the RRI limit.

Q. Why did Ameren Missouri include Pioneer Prairie in its non-renewable portfolio?

A. ** _____
_____
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_____

_____ **

Q. How does excluding Pioneer Prairie from Ameren Missouri's non-renewable portfolio affect the RRI calculation?

A. In response to Staff Data Request 2, Ameren Missouri explained that ** _____

_____

_____

_____ ** However, as discussed in the next section, Ameren Missouri also included Pioneer Prairie RECs in the RES-compliant portfolio.

RES-COMPLIANT PORTFOLIO DEFICIENCY

Q. Why is Ameren Missouri's RES-compliant portfolio used to calculate its RRI deficient?

A. Ameren Missouri included a pre-existing renewable resource, Pioneer Prairie, in its RES-compliant portfolio when calculating the RRI. Additionally, Ameren Missouri's RRI calculation does not reflect the most recent electric resource planning analysis.

Q. According to the RES rule, how should the RES-compliant portfolio be determined?

A. The RES-compliant portfolio consists of a utility's existing resources and renewable resources sufficient to meet the RES requirements. A utility should remove pre-existing renewable resources from the portfolio, and then add additional non-renewable resources as needed. The utility should also decrease the RES-compliant portfolio revenue requirement by the avoided cost of fuel not purchased. The assumed renewable resource additions should be based upon the most recent electric resource planning analysis.

Q. Are more funds available for new renewable resources if Pioneer Prairie is excluded from the RES-compliant portfolio?

A. Yes. The revenue requirement for Pioneer Prairie included in Ameren Missouri's calculation of the RES-Compliant portfolio during the 10-year period is approximately ** _____ **.[4] As noted previously, excluding Pioneer Prairie from the non-renewable portfolio would decrease the RRI limit by ** _____ ** therefore the net change by excluding Pioneer Prairie from the entire RRI calculation would be an additional ** _____ ** in funds available for Ameren Missouri to spend on RES compliance under the RRI.

Q. Does Ameren Missouri recognize that the Commission's rule 4 CSR 240-20.100(5)(A) excludes Pioneer Prairie from the RRI calculation?

A. Yes. Mr. Michels acknowledges this on page 19, lines 16-17, of his direct testimony. Mr. Michels argues that although the rule specifically excludes renewable resources owned or under contract prior to the effective date of the rule, Pioneer Prairie is directly attributable to RES compliance because the PPA was entered into after the RES statute became law.

Q. Does Staff know why Ameren Missouri entered into the Pioneer Prairie contract?

A. Staff knows that Ameren Missouri began pursuing wind generation prior to passage of the November 2008 voter initiative petition. In its 2005 IRP, filed on December 5, 2005, Ameren Missouri included 100 MW of wind to be added as early as 2009.[5] Following its 2005 IRP, in its 2007 rate case, Ameren Missouri (then d/b/a

[4] MO Res Model_HIGHLY CONFIDENTIAL - Revised Calculation Method.xlsx.
[5] See Schedule CME-1, EO-2006-0240, 2005 Integrated Resource Plan, Executive Summary, Page 6.

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AmerenUE) discussed its position on the development of renewable resources, in testimony. Michael Moehn testified in his direct testimony, filed on July 6, 2006, in Case No. ER-2007-0002, that "notwithstanding these challenges, AmerenUE is willing to commit to adding 100 MW of wind power to its generating fleet by 2010." [6] The Commission's Report and Order in Case No. ER-2007-0002, effective June 1, 2007, page 109, recognized this commitment in its discussion of Wind Power. In that same case, in surrebuttal testimony filed February 27, 2007, Ameren Missouri witness William Barbieri testified that "on January 31, 2007, a Request for Proposal (RFP) for a minimum of 100 MW of wind generation was issued on behalf of AmerenUE." [7] Further, in its 2008 integrated resource plan report Ameren Missouri acknowledged it had signed a letter of intent, in 2007, to add 100 megawatts of wind by 2010.[8] In the 2008 integrated resource plan report Ameren Missouri discusses the results of its 2007 RFP, which resulted in negotiations with Horizon Wind Energy for a 100 MW wind PPA from the Rail Splitter Wind Farm. Ameren Missouri pointed out that those negotiations "will allow AmerenUE to meet its commitment made to the MoPSC that it would have at least 100 MWs of wind energy in its portfolio by 2010." [9] Ameren Missouri entered into a PPA with Horizon Wind energy for 102 MW of wind from Horizon Wind Energy's Pioneer Prairie Wind Farm in June 2009.[10]

Q. How does wind in Ameren Missouri's preferred resource plan compare to the wind it included in its RRI calculation in this case?

[6] See Schedule CME-2, ER-2007-0002, Direct Testimony of Michael L. Moehn, Page 17, Lines 11-13.
[7] See Schedule CME-3, ER-2007-0002, Surrebuttal Testimony of William J. Barbieri, Page 4, Lines 7-8.
[8] See Schedule CME-4, EO-2007-0409, 2008 Integrated Resource Plan, Page 9.
[9] See Schedule CME-5, EO-2007-0409, 2008 Integrated Resource Plan – Risk Analysis and Strategy Selection Public, Page 88.
[10] See Schedule CME-6, EO-2011-0271, 2011 Integrated Resource Plan – Chapter 5, Page 4.

A. As shown in Table 1 of Mr. Michels' direct testimony, Ameren Missouri's updated RRI calculation includes 208 MW of wind by 2022 whereas its preferred plan includes 123 MW of wind additions by 2022.

Q. Is Ameren Missouri's calculation of the RES-compliant portfolio tied to its most recent electric resource planning analysis?

A. Yes. Rule 4 CSR 240-20.100(5)(B) states that "these renewable energy resource additions will utilize the most recent electric utility resource planning analysis." In this filing Ameren Missouri updated its wind additions through 2022 from 123 MW to 208 MW in its calculation of the RRI in this case, which Staff believes is more reflective of the goals of the rule than the model used in the IRP. Ameren Missouri has also indicated in the direct testimony of Mr. Michels that it intends to incorporate the RRI method approved by the Commission in its 2014 IRP filing[11]. If the Commission believes it is necessary to do so, Staff suggests the Commission authorize Ameren Missouri to vary from strict compliance from that rule requirement to allow it to use the 208 MW of wind by 2022 rather than the 123 MW when calculating its RRI in this case.

SCALING RENEWABLE RESOURCES

Q. Mr. Michels states the Commission cannot determine if Ameren Missouri has reached the RRI limit without deciding the issue of scaling resources, does Staff agree?

A. No. Staff believes the critical issue in determining whether or not Ameren Missouri will reach the RRI limit this year is whether Pioneer Prairie is included as a RES compliance cost.

Q. How did Ameren Missouri scale its RES-compliant portfolio to remain under the 1% RRI limit?

[11] Direct Testimony of Mr. Michels, Page 6, Lines 16-17.

A. As Mr. Michels testifies, "the dollars spent for each year were scaled based on that year's relative share to the total unconstrained dollar amount for the ten-year period."[12] Certain resources, the expansion to the Maryland Heights landfill gas generation facility and the utility scale solar installation, were considered direct inputs to the model and were not scaled.

Q. What other factors could Ameren Missouri have considered when determining how to scale down its RES-compliant portfolio?

A. The cost per renewable energy credit expected from a proposed renewable resource would provide a means to scale and preserve the least cost RES compliance plan.

Q. Is there a requirement that the RES-compliance plan be the least-cost means of complying with the RES?

A. Yes. 4 CSR 240-20.100(7)(B)1.E. requires the utilities to submit "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." Further Section 393.1030.2(1) RSMo states:

> A maximum average retail rate increase of one percent determined by estimating and comparing the electric utility's cost of compliance with ***least-cost renewable generation*** and the cost of continuing to generate or purchase electricity from entirely nonrenewable sources, taking into proper account future environmental regulatory risk including the risk of greenhouse gas regulation; (*emphasis added*)

Q. Does Staff have an opinion on how the proportion of solar rebates to non-solar renewable resources should be determined under the constraints of the RRI limits?

[12] Direct Testimony of Mr. Michels, Pages 10, Lines 22-23, Page 11, Line 1.

A. No. Staff views this to be a policy decision for the Commission on how the RES rule balances solar rebate payments to the least-cost plan to comply with the RES requirements.

SUSPENDING SOLAR REBATES

Q. Mr. Michels recommends the Commission allow Ameren Missouri to limit solar rebates to $18,811,454 in 2013. Is $18,811,454 solely of the aggregation of solar rebate payments to customers?

A. No. Schedule MM-1 attached to Mr. Michels direct testimony includes ** _____ _____ **, the total of those being $18,811,454.

Q. Does Staff agree with Mr. Michels that solar rebates, including ** _____ _____ **, should be limited to $18,811,454 in 2013?

A. No. As previously discussed Ameren Missouri has included Keokuk and Pioneer Prairie in the RRI calculation. Removing Pioneer Prairie alone would increase funds available under the RRI limit by approximately ** _____ **. Further, Ameren Missouri included ** _____ **, in its calculation of the RES-compliant portfolio. House Bill 142 requires additional solar rebates to be paid in an amount equal to the revenue requirement for a proposed utility-scale solar project. The revenue requirement for the utility-scale solar project over the 10-year period is approximately ** _____ **.[13] Taking into account the above factors, the total available funds for additional renewable resources for the ten-year period of 2013-2022 would be approximately ** _____ ** before Ameren Missouri would reach the RRI cap.

Q. Should the entire ** _____ ** be reserved for solar rebates?

[13] MO Res Model_HIGHLY CONFIDENTIAL - Revised Calculation Method.xlsx.

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A. Staff views allocation of this total between solar rebates and RES compliance strategies as a policy decision for the Commission on how to balance solar rebate payments with the least cost plan to comply with the RES requirements.

Q. Will Ameren Missouri's plan to add 208 MW of wind satisfy the RES requirements in the 10-year period?

A. No. Ameren Missouri's model indicates a need for ** _____ ** of wind additions to fully comply with the RES requirements through 2022; however, based on its most recent calculation of the RRI, Ameren Missouri can add 208 MW of wind through 2022 without exceeding the RRI limit.

Q. Does this conclude your rebuttal testimony?

A. Yes.

NP

Ameren Services

One Ameren Plaza
1901 Chouteau Avenue
PO Box 66149
St. Louis, MO 63166-6149
314.621.3222
314.554.2514
314.554.4014 (fax)
tbyrne@ameren.com

August 4, 2007

Secretary of the Commission
Missouri Public Service Commission
Governor Office Building
200 Madison Street
Jefferson City, MO 65101

RE: Union Electric Company's 2005 Utility Resource Filing Pursuant to 4 CSR 240 – Chapter 22.

Dear Sirs:

In compliance with the Missouri Public Service Commission's order of July 25, 2006, AmerenUE is filing, as a public document, unredacted versions of the following pages of its IRP:

Document No. 1, Page 6;
Document No. 3, Page 200; and
Document No. 9, Page 15.

Thank you for your attention in this regard.

Sincerely,

Thomas M. Byrne
Managing Associate General Counsel

Attachments

Highly Confidential Document No. 1

Integrated Resource Plan

Executive Summary

Corporate Planning Department December 2005

Schedule CME-1-2

established to create the vision and strategies, evaluate opportunities, identify barriers, and develop action and implementation plans to achieve meaningful levels of cost effective demand response, energy efficiency and renewable energy. AmerenUE also encourages the state of Missouri to consider the development of a Missouri sustainable energy plan to further encourage the development of energy resource options.

Developing sustainable energy efficiency and demand response initiatives call for a regulatory compact. Section 139 of the Energy Policy Act of 2005 lends support to the notion of a regulatory compact as it directs the Secretary of Energy, in association with the National Association of Regulatory Utility Commissioners (NARUC) and the state energy offices, to study the impact of state policies that encourage energy efficiency including:

1. performance standards for achieving energy use and demand reduction targets;
2. funding sources, including rate surcharges;
3. infrastructure planning approaches (including energy efficiency programs) and infrastructure improvements;
4. the costs and benefits of consumer education programs conducted by State and local governments and local utilities to increase consumer awareness of energy efficiency technologies
5. and measures; and
6. methods of:
    a. removing disincentives for utilities to implement energy efficiency programs;
    b. encouraging utilities to undertake voluntary energy efficiency programs; and
    c. ensuring appropriate returns on energy efficiency programs.

An important element of AmerenUE's integrated resource plan is to implement a sustainable energy component consisting of the addition of renewable energy sources as early as 2009. AmerenUE's integrated resource plan includes a capacity expansion portfolio option where 100 MW of Missouri wind generation may be added at AmerenUE as early as 2009. The plan includes other capacity expansion portfolio options with meaningful levels of potential new demand response and energy efficiency initiatives to supplement AmerenUE's substantial base of existing sustainable energy initiatives. The sustainable energy plan requires a systemic approach to developing and executing renewable energy, energy efficiency and demand response strategies that are aligned with the program goals set by all stakeholders. A critical success factor in the development of a sustainable energy plan for AmerenUE, and for the entire state of Missouri, should involve a regulatory compact where AmerenUE, the Missouri Public Service Commission and all stakeholders collaborate to design program parameters and agree on cost recovery mechanisms.

Exhibit No.:	
Issues:	Resource Planning; EEInc. Contract; DSM/Renewables
Witness:	Michael L. Moehn
Sponsoring Party:	Union Electric Company
Type of Exhibit:	Direct Testimony
Case No.:	ER-2007-0002
Date Testimony Prepared:	July 6, 2006

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2007-0002

DIRECT TESTIMONY

OF

MICHAEL L. MOEHN

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

**** DENOTES HIGHLY CONFIDENTIAL INFORMATION ****

St. Louis, Missouri
July, 2006

Public

Schedule CME-2-1

whether industrial process customers are able to respond to load curtailments in exchange for a lower monthly demand charge and energy credit. In the context of this rate proceeding, AmerenUE is willing to consider other ways to implement beneficial demand side programs, and looks forward to working with stakeholders involved in this case to do so.

Q. Please discuss AmerenUE's position on the development of renewable sources of power.

A. In its recently-filed IRP, AmerenUE stated that it continues to consider options that would allow it to add 100 MW of wind power to its generating fleet. However, the IRP pointed out that the location of AmerenUE's main load centers (Eastern Missouri) are somewhat remote from more desirable wind generation locations (Kansas, Northwest Missouri), creating challenges to the development of wind power. Notwithstanding these challenges, AmerenUE is willing to commit to adding 100 MW of wind power to its generating fleet by 2010. This commitment is based on the assumption, however, that construction of such wind power generation proves to be technologically feasible, and that the stakeholders in this proceeding are supportive of this proposal. AmerenUE also remains willing, in the context of this rate proceeding, to explore with all stakeholders ways to implement other renewable sources of energy where feasible.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Exhibit No.:	
Issues:	Voluntary Green Program Tariff
Witness:	William J. Barbieri
Sponsoring Party:	Union Electric Company
Type of Exhibit:	Surrebuttal Testimony
Case No.:	ER-2007-0002
Date Testimony Prepared:	February 27, 2007

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2007-0002

SURREBUTTAL TESTIMONY

OF

WILLIAM J. BARBIERI

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
February, 2007

Q. What are your responsibilities in your current position?

A. I am responsible, along with the staff in my department, for investigating, developing and implementing the renewable energy initiatives for Ameren Corporation and its affiliates.

Q. What are some of the specific functions related to your responsibilities?

A. The group that I work with has conducted and is continuing to conduct research related to specific renewable generation technologies including wind, solar, biomass, landfill gas, methane digesters and hydroelectric sources of power. We have held numerous meetings with appropriate individuals from other utilities and renewable energy developers and generators in order to assess the technical and financial feasibility of such generation resources for use in the AmerenUE generation system.

Q. What is the scope of your Surrebuttal Testimony?

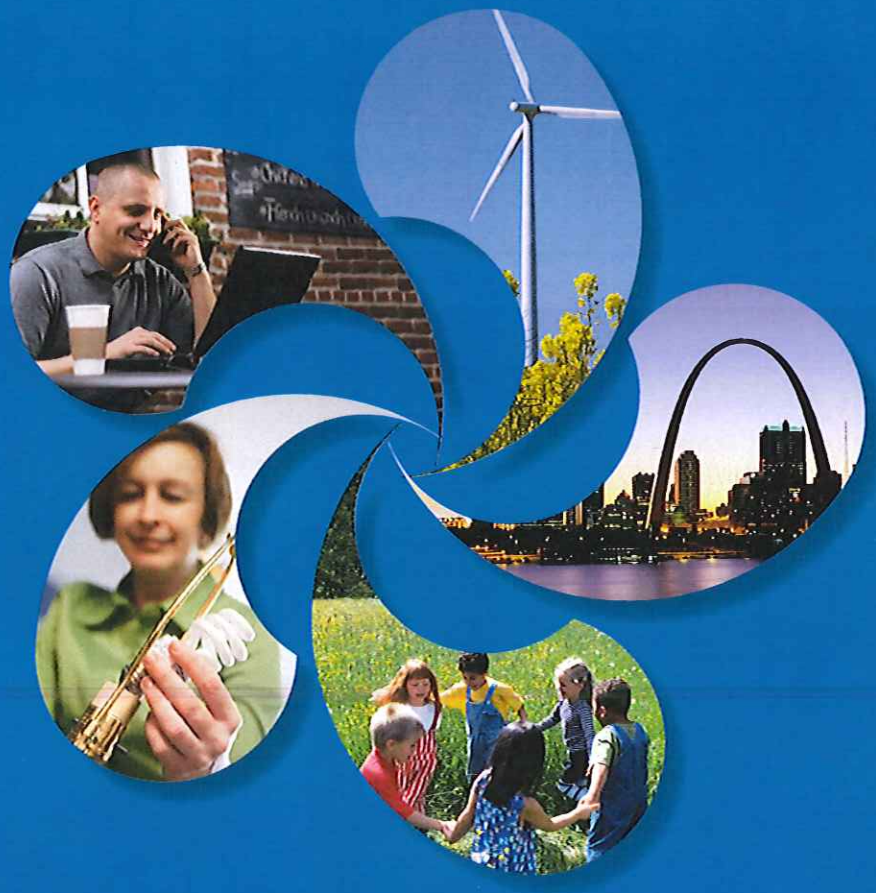
A. I will be responding to the Rebuttal Testimony of Missouri Public Service Commission Staff witness Lena Mantle, related to AmerenUE's Voluntary Green Program (VGP) Tariff. This tariff would provide customers the option to purchase Renewable Energy Certificates (RECs).

I. AMERENUE'S COMMITMENT TO RENEWABLE RESOURCES

Q. Ms. Mantle commented that Staff does not agree that AmerenUE's VGP tariff "...is where AmerenUE should be expending its efforts as a means of including renewables in its portfolio of resources." (Mantle, Feb. 5, 2007 Rebuttal Testimony, p. 1.) Why has AmerenUE chosen this method?

A. AmerenUE began this initiative due to customer inquiries and requests for renewable resources to be included in the generation mix of AmerenUE. Extensive analysis

2008 integrated resource plan report



Planning

for a secure energy future

Ameren UE
Connecting Missouri

Schedule CME-4-1

Energy Efficiency Programs

Across the nation, utility companies, like ours, are taking a very serious look at the potential benefits of energy efficiency programs. These programs help customers reduce their utility bills and help the environment by reducing the number of kilowatthours we must generate. Less power use reduces emissions and the stress on our delivery and generation systems.

In mid-2008, we expect to launch over a dozen programs that will help our Missouri customers conserve and manage energy consumption. The full list can be found at **www.ameren.com/energyefficiency**. The goal is to reduce electricity consumption growth through a combination of customer efficiency initiatives, consumer education programs and equipment upgrades and replacement over the next 20 years.

Among Top 10 In Investment in Energy Efficiency

In 2009, we will be spending $24 million on energy efficiency programs, a number that will grow to nearly $56 million for the year 2015. That level of spending from AmerenUE should place Missouri among the nation's top 10 states in per capita investment in energy efficiency programs.

Renewable Energy

AmerenUE has a long history of incorporating renewable resources into our generation portfolio. Over the years, we have increased our hydroelectric generation capacity through maintenance upgrades at our Osage and Keokuk plants, and we plan to increase capacity at those plants in the future. And with an intensified focus on renewables today, we have a more robust plan for incorporating renewables into our overall power generation mix.

In this planning process, various renewable portfolio options were analyzed to assess cost effectiveness relative to other demand and supply options. In 2008, we expect to do an even more rigorous and detailed assessment of prospective regional renewable resources, like hydroelectric, landfill gas, anaerobic digesters, plus generation from biomass and wind. Once we identify regional resources with the most technical and economic potential, we will implement a plan to develop those resources.

Thus, as a result of the IRP analyses, AmerenUE will be making additional commitments to add renewable energy supply options to its generation portfolio.

Missouri Bill 54 Sets Targets

Recent legislative action in Missouri also encourages development of renewable energy resources. Missouri Senate Bill 54 "Green Power Initiative," which was signed in June 2007 by the governor of Missouri, sets "Green Power" energy "targets" of 4% of total retail electric sales from certain renewable energy technologies by 2012; 8% of total retail electric sales by 2015; and 11% of total retail electric sales by 2020. Gains from energy efficiency programs can be used to meet these targets. In addition, electricity generation from renewable sources prior to August 28, 2007, may be counted toward the targets, provided they continue to be used.

Adding 100 Megawatts of Wind Power

In response to the need to expand renewable resources in our region, in 2007, AmerenUE signed a letter of intent to add at least 100 megawatts of wind power to its generating portfolio by 2010.

Pure Power™

To further advance renewable energy options, AmerenUE also launched Pure Power™ in 2007, a voluntary renewable energy credit program for Missouri residential and business customers. Pure Power allows residential customers to voluntarily pay an additional 1.5 cents per kilowatt-hour (kWh) to purchase renewable energy credits to encourage development of renewable resources. AmerenUE's small, medium and large business customers participate by purchasing 1,000 kWh "blocks" of Pure Power for $15 per block. Business customers can purchase as many blocks as they want.

Public

Integrated Resource Plan

4 CSR 240-22.070

Risk Analysis and Strategy Selection

February 2008

Schedule CME-5-1

study will now be required in order to make a determination as to which specific projects related to these technologies should be pursued by AmerenUE and integrated into the generation portfolio.

Projected Timeline:	
Develop specific criteria for consulting services	April, 2008
Issuance of RFP for consulting services	May, 2008
Contract with chosen consultant(s)	June, 2008
Begin data accumulation and research	July, 2008
First draft report due	December, 2008
Review and comment period	Jan-Feb, 2009
Revise and finalize report	March, 2009
Issue final report	May, 2009

Wind – Procure 100MWs

As a result of the Request for Proposal (RFP) process that began in 2007, AmerenUE is in the initial phases of negotiating a 20 year 100MW power purchase agreement with Horizon Wind. This negotiation will result in the acquisition of 100 MWs of wind generation from the Rail Splitter Wind Farm that will be owned and operated by Horizon Wind. It is anticipated that negotiations should be concluded by late spring of 2008 with construction of the wind farm slated to begin shortly thereafter. The project should become operational with the delivery of power by early 2009. This will allow AmerenUE to meet its commitment made to the MoPSC that it would have at least 100 MWs of wind energy in its portfolio by 2010.

Projected Timeline:	
Power Purchase Agreement negotiations begin:	January, 2008
Conclusion of negotiations:	April, 2008
Contract executed:	April-May, 2008
Construction begins:	May, 2008
Transmission system upgrades:	July, 2008-March, 2009
Power delivery begins:	2nd Quarter, 2009

Wind – Continue to Evaluate Proposals

Additionally, and in conjunction with proposals received under the initial 2007 RFP, analysis is continuing related to other wind projects that were offered to AmerenUE. Several meetings have already been held, with discussions centered on addressing critical transmission issues. These discussions are ongoing and further evaluations are and will be conducted to address project feasibility.

is pumped back into the upper reservoir, where it is stored until needed. As water passes through the powerhouse, water spins the turbines, which drive generators to produce electricity. The Taum Sauk facility has a pump back efficiency of 0.714.

Pioneer Prairie Wind Farm

In June 2009 Ameren Missouri executed an agreement to purchase 102 MW of wind power from Phase II of Horizon Wind Energy's Pioneer Prairie Wind Farm in northeastern Iowa in Mitchell County. The wind farm is fully operational with both phases having a total capacity of more than 300 MW. This Purchase Power Agreement runs from September 2009 through August 2024. The power Ameren Missouri is purchasing ties into the Midwest Independent System Operator (MISO) transmission grid, of which the company is a member.

5.2 Potential New Storage Resources

A high-level fatal flaw analysis was conducted as part of the first stage of the supply-side selection analysis. Options that did not pass the high-level fatal flaw analysis consist of those that could not be reasonably developed or implemented by Ameren Missouri. The universe list of storage options and fatal flaw analysis are included in Chapter 5 – Appendix A. Two options passed the initial screen; pumped hydro and compressed air energy storage.

Pumped Hydro Energy Storage

Conventional pumped hydro uses two water reservoirs, separated vertically. During off peak hours water is pumped from the lower reservoir to the upper reservoir. During intermediate and peak-demand periods the water is released from the upper reservoir to generate electricity. Church Mountain, located about midway between Taum Sauk State Park and Johnson Shut-ins State Park, was identified as the potential site for a new 600 MW pumped hydro plant. In the current IRP, Ameren Missouri has internally updated the capital costs based on recent construction experience at its Taum Sauk facility.

Compressed Air Energy Storage

A Compressed Air Energy Storage (CAES) facility consists of an energy production and energy storage system. The energy production facilities operate using off-peak electricity available at night and on weekends to compress air into the storage vessel. During intermediate and peak-demand periods, compressed air is released from the pressurized energy storage system, heated by combustion of natural gas, and used to drive high efficiency turbines to produce electricity. Using electric powered compressors, air is injected through dedicated wells and charges the storage vessel.