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Heights Energy Center  
Witness: William J. Barbieri  
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**MISSOURI PUBLIC SERVICE COMMISSION**

**Case No. ER-2012-0166**

**REBUTTAL TESTIMONY**

**OF**

**WILLIAM J. BARBIERI**

**ON**

**BEHALF OF**

**UNION ELECTRIC COMPANY  
d/b/a Ameren Missouri**

**St. Louis, Missouri  
August, 2012**

Ameren Exhibit No. 45  
Date 10-11-12 Reporter KF  
File No ER-2012-0166

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1 **REBUTTAL TESTIMONY**

2 **OF**

3 **WILLIAM J. BARBIERI**

4 **CASE NO. ER-2012-0166**

5 **I. INTRODUCTION**

6 **Q. Please state your name and business address.**

7 A. My name is William J. Barbieri. My business address is One Ameren Plaza,  
8 1901 Chouteau Avenue, St. Louis, Missouri 63103.

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

10 A. I am employed by Union Electric Company, d/b/a Ameren Missouri  
11 ("Ameren Missouri" or "Company") as Manager, Renewable Energy.

12 **Q. Please describe Ameren Missouri.**

13 A. Ameren Missouri is a regulated utility and wholly owned subsidiary of  
14 Ameren Corporation.

15 **Q. Please describe your employment history with Ameren Missouri.**

16 A. I joined the Fossil Fuel Department of Ameren Corporation in August, 1999  
17 as Senior Business Development Executive. In 2000, I was promoted to Coal Business  
18 Development Director handling procurement and sales of third party coal along with  
19 marketing functions for coal terminal activities. In November of 2004, I was asked to  
20 coordinate the renewable energy initiative for Ameren Corporation along with the Ameren  
21 affiliates as the Managing Executive, Renewables. In 2007, I was promoted to Manager,  
22 Renewables. In January, 2010 the department was transferred to Ameren Missouri at which  
23 time my title was changed to Manager, Renewable Energy.

1           **Q.     Please describe your duties and responsibilities as Manager, Renewable**  
2 **Energy.**

3           A.     My primary responsibilities are the development of the renewable energy  
4 policy, goals and procedures for Ameren Missouri, including strategy and planning. One of  
5 my primary duties is to ensure Ameren Missouri is in full compliance with the requirements  
6 of the Missouri Renewable Energy Standard ("RES"). This involves leading negotiations  
7 related to the acquisition of renewable energy resources in the form of power purchase  
8 agreements, Renewable Energy Credit ("REC") procurement and project development  
9 resulting in renewable generation facilities owned and operated by Ameren Missouri. I am  
10 also responsible for coordinating activities of internal groups related to research and analysis  
11 concerning technology assessments for wind, solar, biomass, landfill gas, hydro and other  
12 renewable resource options. This includes financial feasibility analysis. I am responsible for  
13 the preparation of compliance plans and reports as required by statute and Missouri Public  
14 Service Commission regulations. I support the regulatory and legislative departments by  
15 providing guidance and information on renewable energy issues at both the state and federal  
16 level. At times, I also help educate and provide information to customers in raising  
17 awareness of renewable energy and associated issues. I oversee all customer renewable  
18 issues as related to the RES for programs such as net-metering, solar rebates and the solar  
19 Standard Offer Contract. My department also provides extensive renewable energy  
20 information to customers by updating data on the Company's websites, providing tours in the  
21 Energy Learning Center at the Company's general office building and speaking at numerous  
22 community and industry sponsored events.

1           **Q.     Please describe your qualifications.**

2           A.     I received a Bachelor of Science Degree in Business Administration from  
3     St. Louis University in 1977 with accounting as my area of specialization. I have been in the  
4     energy industry for approximately 33 years and I have extensive contract negotiation  
5     experience.

6           **Q.     What is the purpose of your rebuttal testimony?**

7           A.     The purpose of my rebuttal testimony is first to respond to the portion of the  
8     Missouri Public Service Commission Staff ("Staff") Report on Revenue Requirement Cost of  
9     Service ("Staff's Report") sponsored by Staff witness Michael Ensrud, related to Ameren  
10    Missouri's Voluntary Green Program-Pure Power ("Pure Power").

11           Second, I will provide an update regarding the Company's successful completion of  
12    its Maryland Heights Renewable Energy Center, which is now providing renewable energy  
13    generated from landfill gas to Ameren Missouri's customers.

14                                   **II.    PURE POWER**

15           **Q.     Staff is recommending that the tariffed Pure Power Program be**  
16    **terminated and that the program become a deregulated activity. What is Ameren**  
17    **Missouri's position regarding this recommendation?**

18           A.     In addressing the termination of the program, it should first be noted that the  
19    Company's contract with 3Degrees (the renewable energy and marketing development firm  
20    that has managed the Pure Power program since its inception) will expire on December 31,  
21    2012. After completing a competitive Request for Proposal ("RFP") solicitation, Ameren  
22    Missouri selected 3Degrees to develop and manage the program for five years. 3Degrees  
23    was selected as the 2007, 2008 and 2009 Department of Energy's Renewable Marketer of the

1 Year and currently runs three of the top performing utility voluntary renewable energy  
2 programs in the nation. Ameren Missouri is in the process of negotiating terms and  
3 conditions for a new contract with 3Degrees. Should those negotiations prove successful, a  
4 revised tariff would be filed with the Commission for approval. We believe that some of the  
5 concerns expressed in the Staff Report, primarily those concerning participation costs of the  
6 existing program, will be addressed in the terms of the new agreement.

7 To Staff's suggestion that the Company not tariff the program, it should be noted that  
8 this program is only offered to customers of Ameren Missouri and is promoted as Ameren  
9 Missouri's first effort to address the desire for renewables and renewable development of its  
10 customers. Second, a program that is not tariffed would add unnecessary costs for customers  
11 who desired to support the program. The costs associated with developing computer  
12 software in order to place it on participating customers' bills have already been incurred (and  
13 paid for below the line). If the program cannot be billed directly on the existing bill of a  
14 customer, additional programing costs would be incurred, a separate billing function would  
15 need to be developed, separate mailing costs would be required and there would be no access  
16 to the customer usage numbers that are required to determine the level of participation.  
17 Finally, it is noteworthy that this program is held to the highest industry standards because it  
18 is Green-e Energy certified. This certification ensures that the program is scrutinized by an  
19 independent third party and that it is in full compliance with industry standards.

20 A non-tariffed program could theoretically be available to anyone, even those who  
21 are not Ameren Missouri electric customers, which is not the Company's intent for the  
22 program. The program was not designed as a forum to offer REC purchases to those who are  
23 not Ameren Missouri customers but to make it convenient for those Ameren Missouri

1 customers who voluntarily choose to support renewable development through the purchase of  
2 RECs.

3 **Q. Staff states that, “Contributing to the purchase of a REC is not a**  
4 **traditional transaction for service rendered by a utility” and that “Even today, no other**  
5 **Missouri utility utilizes a similar voluntary program.” Are these statements correct?**

6 **A.** I am unsure where Staff gets its information. According to the Department of  
7 Energy’s National Renewable Energy Lab (“NREL”), there are approximately 860 utilities in  
8 the U.S. that offer similar green programs, which are similarly priced and utilize RECs to  
9 supply the program because RECs are the industry norm. These programs result in more  
10 than 50% of U.S. electricity customers having the opportunity to support renewable energy  
11 through the purchase of RECs directly through their utility, with approximately 570,000  
12 customers electing to participate nationally. The Department of Energy reports that in  
13 Missouri alone there are nine other green pricing programs in addition to Ameren Missouri’s  
14 Pure Power program. Although these programs are not offered by other Commission-  
15 regulated utilities, they are offered by many Missouri electric cooperatives, as shown in the  
16 chart shown below:

Utility	Price per kWh	Year Program Began
Ameren Missouri	1.5	2007
Boone Electric Cooperative	2	2003
Cuivre River Electric Cooperative	2.5	2004
Howell-Oregon Electric Cooperative	6	2004
Intercounty Electric Cooperative	3	2006
Laclede Electric Cooperative	3.5	2005
Lewis County Rural Electric Cooperative	2	2003
White River Valley Electric Cooperative	3.5	2004
City Utilities of Springfield	5	2001
Corn Belt Energy	0.5	2004

1           The national average price for a REC, according to this NREL report, was  
2   1.67¢/kWh. The Ameren Missouri Pure Power program participation price of 1.50¢/kWh  
3   continues to be below the national average and is well below the price of RECs available  
4   through similar programs offered by electric cooperatives in the state except for Corn Belt  
5   Energy.

6           **Q.     Staff contends that not enough of the total price of \$15 per REC goes**  
7   **toward the direct purchase cost of the RECs. How do you respond to this concern?**

8           A.     Staff's concern has been reviewed in several previous rate cases throughout  
9   the term of the program. The total program participation price has always been comprised of  
10  the price paid by 3Degrees for RECs from qualified facilities, and portions to cover  
11  education, marketing and administration. When the program first started, Ameren Missouri  
12  stated that, based on research of similar programs established by numerous utilities across the  
13  country, as awareness about renewables and these types of programs grew, funds utilized for  
14  education and marketing purposes would decline while increased demand would increase the  
15  funds used to acquire RECs. This has proven to be the case in Ameren Missouri's Pure  
16  Power program as well. As I previously mentioned, there are over 860 utilities across the  
17  country that offer similar voluntary programs, as reported by the National Renewable Energy  
18  Lab (NREL, 2010). This same source states that the demand created by these programs has  
19  contributed to 1,600 MWs of renewable energy generation capacity, which refutes Staff's  
20  assumption to the contrary. To further address Staff's claim, I would point to the 146 MW  
21  Farmers City wind farm located in Atchison County, Missouri, which has been one of the  
22  primary sources of RECs over Pure Power's life and the only source of RECs since March,  
23  2010. In March of 2009, 3Degrees entered into a four-year contract to purchase the RECs



1 from Farmers City in a volume estimated to provide 100% of the demand for the Pure Power  
2 Program through 2012. This contract was executed prior to the wind farm coming on line.  
3 The purchase of RECs through Pure Power was a contributing factor that allowed for the  
4 development and construction of this wind farm, thus supporting the development of  
5 renewables.

6 Since the Pure Power program's inception, through June, 2012, a total of 346,844  
7 RECs have been purchased with only 673 of those RECs coming from outside the state of  
8 Missouri. By focusing the REC supply on Missouri renewable generating resources, less  
9 costly RECs from facilities located in states with more abundant renewable resources are not  
10 being used. Therefore, the cost of a virtually all-Missouri REC program is more expensive.  
11 However, customers have stated that a principal reason for their participation in Pure Power  
12 is the fact that the RECs purchased by the program come from Missouri resources.

13 While Ameren Missouri believes the current program is appropriately structured, a  
14 major part of the negotiations for the next contract concerns how to reduce the price of  
15 participation while maintaining as close to a 100% Missouri REC supply as possible.

16 **Q. Staff also asserts that the Pure Power Program does not fulfill the tariffed**  
17 **purpose, which is "to provide customers with an option to contribute to the further**  
18 **development of renewable energy technologies." How do you respond to that assertion?**

19 **A.** As I stated above, there is empirical evidence that this statement is untrue.  
20 Pure Power was instrumental in the success of Farmers City, as the REC sales were a  
21 contributing factor allowing for the development and construction of this wind farm.

22 In addition, Staff's argument has already been considered and rejected by the  
23 Commission. In the "Findings of Fact" portion of its Report and Order in Case No.

1 ER-2008-0318, the Commission explained, “A REC is not produced until actual renewable  
2 energy is produced. Even though those electrons have already been produced and used, the  
3 sale and purchase of a REC stimulates demand for additional sources of renewable energy.”<sup>1</sup>

4 There is a last consideration that should be factored into the Commission’s decision  
5 on this issue. Because of the significant decline in the price of energy over the last several  
6 years and the price instability projected for the future, intermittent renewable generator  
7 projects, such as wind farms and solar installations, are even more dependent on their ability  
8 to sell RECs to programs such as Pure Power in order to maintain financial viability. The  
9 Pure Power Program has met and continues to meet its stated purpose, and Staff’s concerns,  
10 which were rejected by the Commission in the past, should be rejected once more.

11 **Q. Staff states that information on Ameren Missouri’s Pure Power website is**  
12 **problematic and misleading. Staff contends that Ameren Missouri’s materials lead**  
13 **customers to believe they are receiving physical green energy. Please respond to Staff’s**  
14 **criticisms.**

15 **A.** All marketing materials and materials used on the Pure Power website are  
16 reviewed annually by the Center for Resource Solutions (Green-e Energy). The Center for  
17 Resource Solutions’ Green-e Energy certification represents the “gold standard” for green  
18 programs, ensuring compliance with the strictest industry standards.

19 Second, at the beginning of each year, starting two years ago, Ameren Missouri began  
20 providing copies of the Pure Power marketing materials intended for use during that year to  
21 Staff for its comments and review. In those instances where Staff has determined there to be  
22 an issue, Ameren Missouri has worked with Staff to resolve the issue. That effort has led to  
23 Ameren Missouri making changes to some materials. As for the marketing materials used in

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<sup>1</sup> Case No. ER-2008-0318, Report and Order, February 6, 2009, p. 106.

1 2012, Ameren Missouri sent an e-mail to Staff on February 7, 2012, with all materials  
2 attached. We received a reply acknowledging that Staff had received the information and  
3 advising us that it would review the material and get back to us if Staff had any questions or  
4 concerns. (Similarly, Ameren Missouri had e-mailed the 2011 materials to Staff on  
5 March 18, 2011.) In the five months between when the Staff was provided those materials  
6 and July 6, 2012, when the Staff Report was filed, Staff had not advised the Company of any  
7 issues related to the materials. If Staff is truly concerned about the possibility of customers  
8 being misled by these materials, a concern I don't believe is valid, I would have expected  
9 them to let Ameren Missouri know of their concern before we started circulating materials to  
10 customers rather than waiting for a rate case in which to raise these issues.

11 Finally, I would point out that the following statement is clearly posted on multiple  
12 pages on the website and on direct mail marketing materials.

13 Participation in this program does not constitute the  
14 purchase of energy. Renewable Energy Credits  
15 (RECs) which represent the environmental attributes  
16 associated with past renewable energy generation are  
17 retired on behalf of program participants. All RECs  
18 purchased under this program are Green-e Energy certified  
19 by the independent Center for Resource Solutions.  
20

21 This is language agreed upon by Staff and the Company (and other signatories) in the *First*  
22 *Non-unanimous Stipulation and Agreement* in Case No. ER-2010-0036, which was approved  
23 by the Commission effective on March 24, 2010. Ameren Missouri clearly explains to  
24 customers who choose to participate and to support the program that they are not purchasing  
25 energy.

26 **Q. In summary, do you have any closing thoughts regarding the Pure Power**  
27 **Program?**

1           A.     I do. While the Company understands that some Staff members have  
2     concerns about this program, the concerns addressed in the Staff Report only repeat concerns  
3     voiced in earlier rate cases, which the Commission considered and rejected. We are now five  
4     years into the Pure Power Program, a program which has been very successful and won two  
5     national awards.

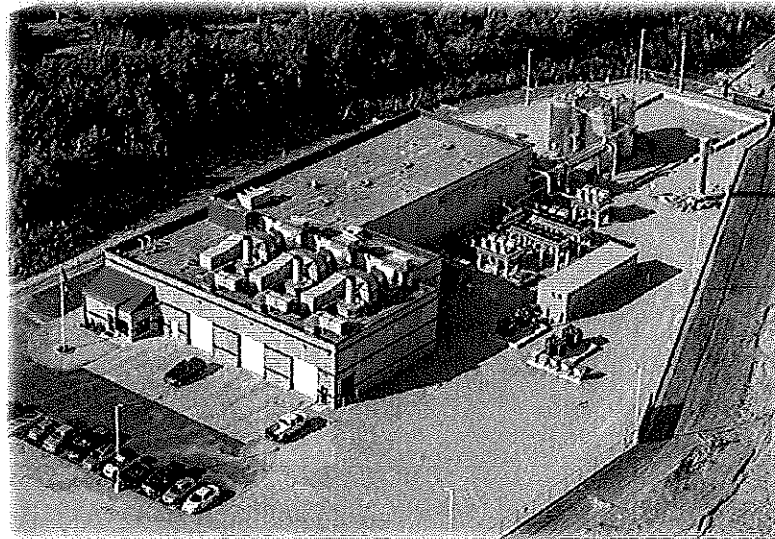
6           The Commission also should keep in mind that the Pure Power Program is a  
7     completely voluntary program, allowing those customers who choose to participate to do so  
8     as they see fit. There are no contracts required and customers may leave the program at any  
9     time with no obligation. Ameren Missouri goes to great lengths to ensure that customers  
10    understand all aspects of the program. This is one of the main reasons that Ameren Missouri  
11    sought and utilizes Green-e Energy certification: to provide a high level of confidence to our  
12    customers concerning program integrity. In the short time that this program has been in  
13    existence, it has won two national awards issued by the U.S. EPA, U.S. Department of  
14    Energy and the Center for Resource Solutions. This program has been a key contributor in  
15    helping to educate and raise awareness of renewable energy issues to customers in the state.

16           **III.     MARYLAND HEIGHTS RENEWABLE ENERGY CENTER**

17           **Q.     What type of facility is the Maryland Heights Renewable Energy Center?**

18           A.     The Maryland Heights Renewable Energy Center, which is the newest  
19     addition to Ameren Missouri's generation fleet, was constructed as part of our effort to meet  
20     the Missouri Renewable Energy Standard. Construction of the physical plant began in early  
21     2011. The plant collects landfill gas through 120 landfill wells and is able to deliver it at a  
22     rate of 6,000 cubic feet per minute. The electric generation plant is equipped with 3 gas  
23     turbines specifically designed to burn landfill gas methane. Total operational output is

1 approximately 15 MWs of generation and the plant is anticipated to produce approximately  
2 100,000 MWhs of renewable energy to be used in meeting the compliance provisions of the  
3 RES. This makes the facility the largest landfill gas to electric generating station in the state  
4 and one of the largest in the country. An aerial photograph of the plant is shown below:



5

6 **Q. How has Ameren Missouri ensured a long-term supply of landfill gas to**  
7 **power this facility?**

8 **A.** Landfill gas is under contract for 20 years under the terms of the gas supply  
9 agreement for this facility. The price paid by Ameren Missouri during the first year of  
10 operation is a set amount. For subsequent years, that price is revised based on the percentage  
11 increase or decrease in the Missouri regulated weighted average cost of all fuels, as reflected  
12 in Ameren Corporations's two most recent annual reports (Form 10K), not to exceed +/-  
13 10%.

14 **Q. Is the Maryland Heights Energy Center "in-service?"**

15 **A.** Yes it is. Earlier this year, Ameren Missouri worked closely with the Staff in  
16 order to agree upon in-service criteria. These criteria are attached to my testimony as

Rebuttal Testimony of  
William J. Barbieri

1     Schedule WJB-ER1. The generating station met the agreed-upon criteria and, accordingly,  
2     was in-service as of June 15, 2012. Data supporting that conclusion has been submitted to  
3     Staff engineer and witness Michael Taylor. Once Staff has completed its review, the  
4     Company is confident they will agree that the facility should be treated as in-service as of  
5     June 15, 2012.

6            **Q.     Does this conclude your rebuttal testimony?**

7            **A.     Yes, it does.**

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of Union Electric Company    )  
d/b/a Ameren Missouri's Tariffs to        )  
Increase Its Revenues for Electric Service.    )

Case No. ER-2012-0166

**AFFIDAVIT OF WILLIAM J. BARBIERI**

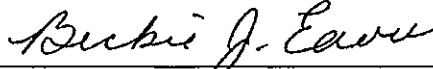
STATE OF MISSOURI    )  
  ) ss  
CITY OF ST. LOUIS    )

William J. Barbieri, being first duly sworn on his oath, states:

1. My name is William J. Barbieri. I am employed by Union Electric Company, d/b/a Ameren Missouri as Manager Renewable Energy.
2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Union Electric Company, d/b/a Ameren Missouri, consisting of 12 pages (and <sup>WJB-ER1</sup> Schedules    through    if any), all of which have been prepared in written form for introduction into evidence in the above-referenced docket.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

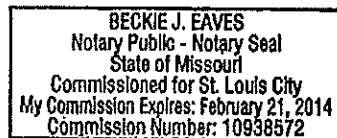
  
\_\_\_\_\_  
William J. Barbieri

Subscribed and sworn to before me this 10<sup>th</sup> day of August, 2012.

  
\_\_\_\_\_

Notary Public

My commission expires: 2-21-2014



## **Landfill Gas Electrical Generator**

### **In-Service Test Criteria**

#### **Maryland Heights Landfill Gas Energy Center**

1. All major construction work is complete.
2. All preoperational tests have been successfully completed.
3. Each combustion turbine generator (CTG) successfully meets contract operational guarantees that are necessary for satisfactory completion of all other items in this list.
4. Each CTG successfully demonstrates its ability to initiate the start sequence resulting in the unit transitioning from zero (0) rpm (or turning gear) to a load equal to or greater than 90% Available Power.

Available Power is determined from the unit-specific Gross Available Power Determination (guaranteed power output performance as supplied by the turbine manufacturer) for conditions during testing.
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5. Each CTG successfully demonstrates its ability to initiate the shutdown sequence resulting in the unit transitioning from a load equal to or greater than 90% Available Power to zero (0) rpm (or turning gear).
6. Each CTG successfully demonstrates its ability to operate at or above a Capacity Factor of forty percent (40%) for one hundred sixty eight (168) hours.

Capacity Factor is determined utilizing Available Power based on average conditions during duration of testing.
---

7. Each CTG demonstrates its ability to operate at or above a Capacity Factor of sixty five percent (65%) for seventy two (72) hours.
8. Each CTG successfully demonstrates its ability to operate at a Capacity Factor of ninety percent (90%) for four (4) hours.
9. The failure of any CTG to achieve operations shall only impact that unit from being considered as in-service.



10. Landfill gas collection/supply system is capable of delivering fuel to support items (6), (7), and (8) listed above.
11. Sufficient transmission/distribution interconnection facilities shall exist for the total CTG (plant) design net electrical capacity at the time the unit is declared fully operational and used for service.
12. Sufficient transmission/distribution facilities shall exist for the total CTG (plant) design net electrical capacity into the utility service territory at the time the unit is declared fully operational and used for service.