

Exhibit No.:  
Issues: Normalized Off-System  
Sales Revenues  
Witness: Jaime Haro  
Sponsoring Party: Union Electric Company  
Type of Exhibit: Direct Testimony  
Case No.: ER-2011-0028  
Date Testimony Prepared: September 3, 2010

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. ER-2011-0028**

**DIRECT TESTIMONY**

**OF**

**JAIME HARO**

**ON**

**BEHALF OF**

**UNION ELECTRIC COMPANY  
d/b/a AmerenUE**

**St. Louis, Missouri  
September, 2010**

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1 **DIRECT TESTIMONY**

2 **OF**

3 **JAIME HARO**

4 **CASE NO. ER-2011-0028**

5 **I. INTRODUCTION**

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

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

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

10 A. I am Director, Asset Management and Trading for Union Electric  
11 Company d/b/a AmerenUE (“AmerenUE” or “Company”).

12 **Q. Please describe your educational background and employment**  
13 **experience.**

14 A. I received a Bachelor’s degree in Electro-Mechanical Engineering from  
15 Universidad Panamericana (Mexico City, Mexico) in 1995 and a Master of Business  
16 Administration degree from Tulane University in 1998. From 1992 to 1998, I held  
17 several positions with Grupo Bursatil Mexicano (“GBM”), a leading Mexican financial  
18 services and brokerage firm, dealing with money markets, currency exchange, debt  
19 placement, and risk management. In 1998, I joined AmerenEnergy Inc. (“AE”) and  
20 worked as a trader of real time energy products before assuming an analytical support  
21 position in the long-term energy market trading area of AE. From 1999 to 2004, I led the  
22 group within AE that provided quantitative analysis for AE’s trading operations. In  
23 2004, I became responsible for trading operations, including managing the transition to

1 trading AmerenUE's power (with AE acting as AmerenUE's agent) in the Day 2 energy  
2 markets started by the Midwest Independent Transmission System Operator, Inc.  
3 ("Midwest ISO") on April 1, 2005. On December 31, 2006, the Joint Dispatch  
4 Agreement between AmerenUE and AmerenCIPS terminated and as a result, effective  
5 January 1, 2007, AE's activities were solely related to AmerenUE's generation asset  
6 management, including the trading and marketing operations. On January 1, 2008,  
7 AmerenUE terminated the agency relationship with AE related to generation asset  
8 management, including the trading and marketing operations. As a result, AE employees  
9 formerly responsible for these activities, including me, became employees of AmerenUE.  
10 At that time, I assumed my current title, Director, Asset Management and Trading  
11 ("AM&T") and added the responsibilities of marketing and asset management to my  
12 existing duties.

13 **Q. What are your responsibilities in your current position?**

14 A. As Director of AM&T I manage two specific areas: (i) Real Time  
15 Operations, and (ii) Trading. My main role is providing guidance, oversight and  
16 coordination of activities in these areas. I am responsible for staffing, budgeting, goal  
17 setting, management reporting and other administrative tasks associated with these  
18 functions.

19 **II. PURPOSE AND SUMMARY OF TESTIMONY**

20 **Q. What is the purpose of your testimony in this proceeding?**

21 A. I am providing testimony in support of the level of off-system sales  
22 revenues included in the cost of service utilized for the purpose of setting AmerenUE's  
23 rates. The level of off-system sales revenues is also a component of the calculation of the

1 net base fuel costs, or “NBFC,” against which net fuel cost changes are tracked through  
2 the Company’s fuel adjustment clause (“FAC”). The calculation of NBFC is discussed in  
3 the direct testimony of AmerenUE witness Gary S. Weiss.

4 **Q. Please summarize your testimony and conclusions.**

5 A. I have determined that at this time the appropriate level of normalized  
6 annual off-system sales revenues to use in determining the Company’s revenue  
7 requirement and to set NBFC in the Company’s FAC is \$389.3 million. It must be noted  
8 that the Company intends to true-up the off-system sales revenues as of the end of the  
9 proposed true-up date in this case (February 28, 2011), which means this amount will, in  
10 all likelihood, change. Please note that the above off-system sales revenues figure  
11 includes revenues that in the past were derived from long-term full or partial  
12 requirements contracts, which the Company is now including within the definition of off-  
13 system sales in its FAC (see revised Factor OSSR in the FAC tariff attached as Schedule  
14 LMB-E3 to the direct testimony of AmerenUE witness Lynn M. Barnes).

15 The focus of my direct testimony is on the methodology and source data for the  
16 calculation used to determine the appropriate level of normalized off-system sales  
17 revenues based on information available as of the date this case is being filed.  
18 AmerenUE’s off-system sales are driven in large part by its load-serving obligations to its  
19 retail customers, the availability of its generation resources, and the cost of operating its  
20 generating resources relative to the market prices for energy and related services (i.e.,  
21 capacity and ancillary services). To the extent the level of off-system sales experienced  
22 during the test year is not the result of normal conditions or does not properly reflect  
23 known and measurable changes, adjustments are necessary, as outlined in more detail

1 below. AmerenUE incorporated the necessary adjustments in its PROSYM production  
2 cost model (the operation of which is addressed in the direct testimony of Company  
3 witness Timothy D. Finnell) to determine the normalized level of the energy component  
4 of off-system sales to include in the determination of the Company's revenue  
5 requirement. Using the results obtained from the operation of this model, and further  
6 accounting for the remaining components of off-system sales, which are described in  
7 more detail later in my testimony, I determined the appropriate level of normalized off-  
8 system sales revenues to use in determining the Company's revenue requirement and to  
9 calculate Factor NBFC in the Company's FAC.

10 **Q. What elements are included in your off-system sales revenue**  
11 **recommendation?**

12 A. In the context of this proceeding, I use the term "off-system sales" in  
13 reference to transactions resulting from AmerenUE's trading activities. The net revenue  
14 from these activities comes from four primary components, as follows: (i) energy sales  
15 revenues; (ii) capacity sales revenues; (iii) ancillary services revenues; and  
16 (iv) miscellaneous Midwest ISO revenues.<sup>1</sup> As noted, the energy sales component is the  
17 product of modeling using the Company's PROSYM model, which is run by Mr. Finnell.  
18 The remaining components are based upon AmerenUE's historical capacity sales  
19 revenues, ancillary services revenues, and miscellaneous Midwest ISO revenues, taking  
20 into account known and measurable changes.

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<sup>1</sup> For example, miscellaneous Midwest ISO revenues result from inadvertent payments received from the Midwest ISO.



1 particular weather, generation outages, fuel costs, transmission constraints, and energy  
2 prices, among many other things. The amount of off-system sales of energy is  
3 determined from the amount of generation that is economically available to produce  
4 energy reduced by that portion of the generation that is required to serve the Company's  
5 load obligations. In any given year, weather, prices, unit availability and load  
6 characteristics vary greatly from normal. Utilizing only actual data from one specific  
7 year in setting the revenue requirement would fail to account for this volatility. In order  
8 to assure that off-system sales revenues utilized to determine the Company's cost of  
9 service and NBFC are consistent with normalized conditions, it is necessary to determine  
10 the off-system sales based on production cost modeling using normalized loads and  
11 generation. Modeling has been used by both the Company and the Staff to determine the  
12 energy component of off-system sales revenues in each of the Company's last three  
13 general rate proceedings.

14 **Q. How are off-system sales of energy derived from the PROSYM**  
15 **model's output?**

16 A. PROSYM has the ability to simulate AmerenUE's interactions with the  
17 market. The model utilizes the inputs described earlier in my testimony to simulate the  
18 dispatch of AmerenUE's system by utilizing the lowest cost resources to meet the hourly  
19 load requirements. As part of its hourly dispatch, the model identifies opportunities for  
20 off-system sales based on the generation that is not being utilized to serve native load that  
21 has dispatch costs below the hourly market price for power. The model also identifies  
22 opportunities for AmerenUE to buy from the market to reduce the cost to serve its native  
23 load and offset generation costs. The simulated off-system sales revenues are determined



1 based on the hourly market price received for the megawatt-hours (“MWh”) that are sold  
2 to the market. I would note that the model assumes that the dispatch of AmerenUE’s  
3 generation is “perfect”; that is, for example, it assumes that there is no congestion  
4 between generation and load (when in fact there is often congestion), and it ignores the  
5 fact that load and generation differ in real time from the previous day’s expectations. In  
6 the real world, it is impossible to achieve a perfect dispatch of a generation system  
7 considering the weather variations that affect the load, and equipment issues affecting  
8 generators’ performance.

9 **Q. What market prices were utilized to model the dispatch of**  
10 **AmerenUE’s generation?**

11 A. At my direction, Mr. Finnell used an around-the-clock energy price of  
12 \$32.76 per MWh to dispatch AmerenUE’s generation in his PROSYM model. That price  
13 is an average based upon energy prices for the 36-month period ending with the  
14 anticipated true-up cutoff date in this case, February 28, 2011. The energy prices for the  
15 36-month period are actual market energy prices received at AmerenUE’s generating  
16 units (i.e., the day-ahead locational marginal prices (“LMPs”) in the Midwest ISO energy  
17 market actually received by AmerenUE at each “node” applicable to each generating  
18 plant) during the 28-month period from March 2008 through June 2010, plus around-the-  
19 clock (“ATC”) basis-adjusted forward energy prices for the eight-month period from July  
20 2010 through February 2011.<sup>2</sup> I propose to replace these forward energy prices with  
21 actual energy prices as part of the true-up in this case.

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<sup>2</sup> These forward energy prices are taken from a combination of broker quotes and published data for trading activity at the Cinergy Hub, a well-recognized Midwest energy trading market. The forward energy prices were adjusted for the basis differential that exists between prices at the location of the Cinergy Hub and the prices that are actually realized at the AmerenUE generating units.

1           **Q.     Please explain why you chose to utilize day-ahead LMPs (“DA-**  
2 **LMPs”) at the generator nodes.**

3           A.     As mentioned before, the PROSYM model simulates the dispatch of the  
4 Company’s generators based on a series of inputs. This dispatching process is similar to  
5 the one followed by the Midwest ISO to determine its day-ahead commitment of all of  
6 the generators in its footprint. The result of the Midwest ISO process is, among other  
7 things, the determination of individual LMPs for each generator. It is most appropriate to  
8 use the historic prices at the same node for the day-ahead markets since these are the  
9 prices that determined the generation levels that produced the vast majority of  
10 AmerenUE’s historic off-system sales. In fact, day-ahead prices determine about 97% of  
11 AmerenUE’s generation commitment and dispatch, whereas real-time prices only apply  
12 to the deviations, which are addressed in Mr. Finnell’s direct testimony.

13           **Q.     Please explain why you chose to utilize three years of energy price**  
14 **data.**

15           A.     As addressed in my direct testimony filed in AmerenUE’s last rate case  
16 (Case No. ER-2010-0036), utilizing more than one year of DA-LMPs – in this case three  
17 years – minimizes the impact of warmer than normal or cooler than normal conditions on  
18 energy prices within the Midwest ISO footprint. See Schedule JH-E1 for a comparison  
19 of monthly energy prices at AmerenUE’s generating units from 2008 to 2010, which  
20 demonstrates just how variable energy prices for the same month in different years can  
21 be.

1           **Q.     What is the average sales price for off-system sales of energy resulting**  
2 **from the PROSYM model run?**

3           A.     The average sales price for off-system sales of energy resulting from the  
4 PROSYM model is \$34.11 per MWh, which is higher than the input (dispatch price) of  
5 \$32.76 because while the model dispatches AmerenUE's generation during each hour of  
6 the year, off-system sales are only made in a portion of the hours during the year and the  
7 total MWhs of generation to serve load and power purchases are greater than the total  
8 MWhs sold off-system. Consequently, the price received for the off-system sales that are  
9 made varies from the dispatch price.

10          **Q.     You noted the volatility of monthly energy prices depicted in Schedule**  
11 **JH-E1. Please elaborate on what you've seen in recent periods regarding energy**  
12 **prices.**

13          A.     Looking further at Schedule JH-E1 and also at Schedule JH-E2, one  
14 obvious observation is that power prices are highly volatile. This volatility is an  
15 important reason we use normalized power prices when setting rates. But another  
16 striking observation that can be made from Schedule JH-E2 is the precipitous drop in  
17 power prices from 2008 to 2009.

18                The 12-month average of around-the-clock power prices through December 2009  
19 dropped approximately 45% compared to the 12-month period ending December 2008.  
20 Moreover, the 12-month average around-the-clock price (based on available actual data  
21 and forward prices through the end of the proposed true-up period in this case) is  
22 expected to be approximately 25% higher than the price level experienced during the  
23 12-month period ending December 2009. Thus, while we currently expect prices in 2010

1 and early 2011 to have rebounded partially from the precipitous drop seen from 2008 to  
2 2009, they still remain lower than they were during a significant portion of the historical  
3 period examined for purposes of this case.

4 **IV. CAPACITY SALES REVENUES**

5 **Q. What is the level of capacity sales revenues on an annual basis that**  
6 **you determined was appropriate to include in total off-system sales?**

7 A. I determined that \$8.6 million is the appropriate amount to include as  
8 capacity sales revenues, using capacity sales for delivery for the period March 2010 –  
9 February 2011 (known as of August 1, 2010), which coincides with the end of the true-up  
10 period. This total will be updated as part of the true-up in this proceeding.

11 **V. ANCILLARY SERVICES REVENUES**

12 **Q. What level of annual ancillary services revenues did you determine**  
13 **was appropriate to include in total off-system sales?**

14 A. I have concluded that the test year level of ancillary services revenues,  
15 \$6.6 million, to be trued-up through February 2011, is the appropriate level of revenues  
16 to include in total off-system sales. The test year level reflects a full year of operation of  
17 the Midwest ISO's ancillary services market, which commenced in January 2009.

18 **Q. Does this conclude your direct testimony?**

19 A. Yes, it does.

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

In the Matter of Union Electric Company )  
 d/b/a AmerenUE for Authority to File )  
 Tariffs Increasing Rates for Electric ) Case No. ER-2011-0028  
 Service Provided to Customers )  
 In the Company's Missouri Service Area. )

**AFFIDAVIT OF JAIME HARO**

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

Jaime Haro, being first duly sworn on his oath, states:

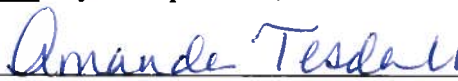
1. My name is Jaime Haro. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a AmerenUE as Director, Asset Management and Trading.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 10 pages, and Schedules JH-E1 through JH-E2, 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.

  
 \_\_\_\_\_  
 Jaime Haro

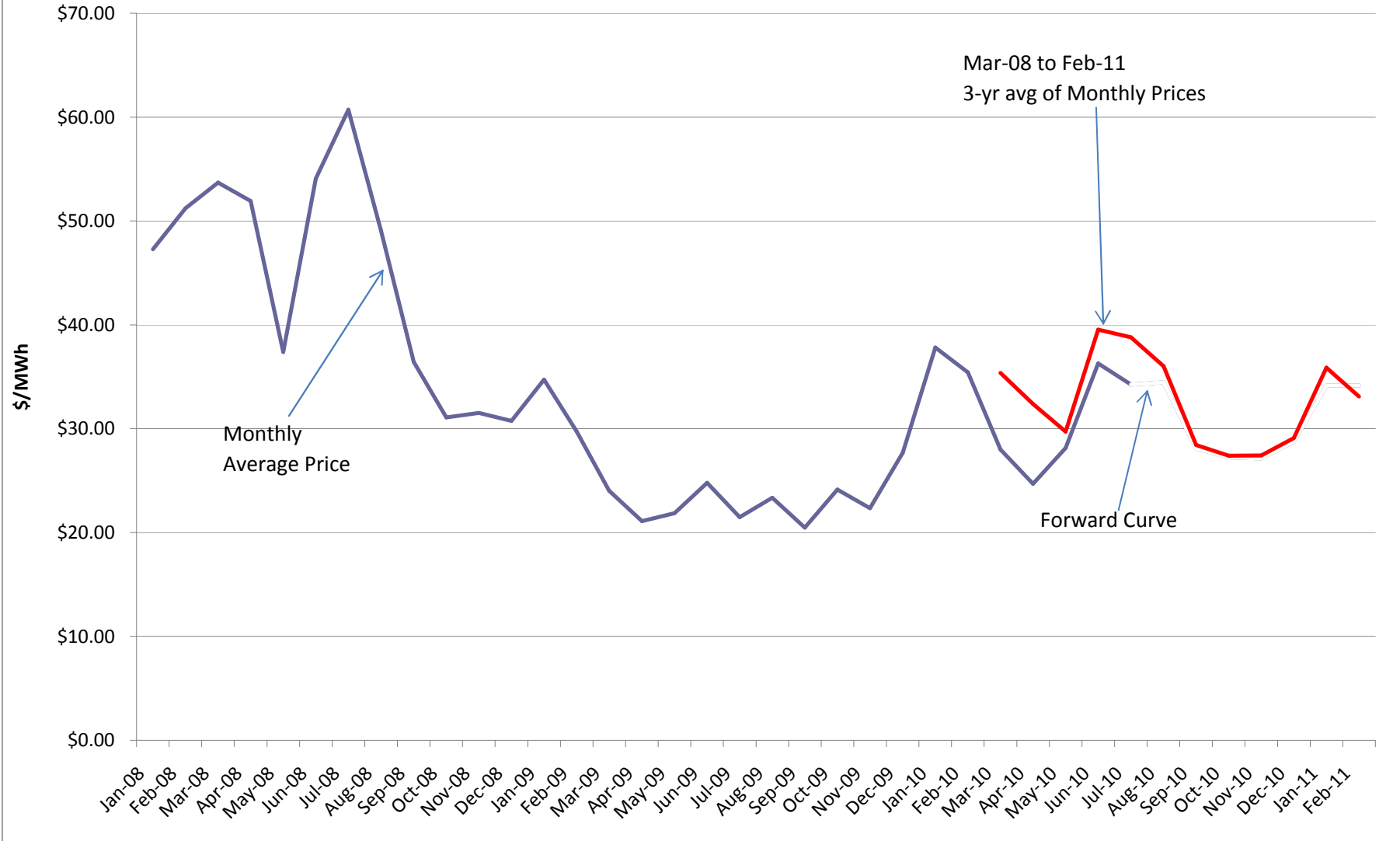
Subscribed and sworn to before me this 3 day of September, 2010.

  
 \_\_\_\_\_  
 Notary Public

My commission expires:



# Monthly Average Day-Ahead Prices for AmerenUE (Around the clock MWh-weighted for generator output)



## Monthly Average Day-Ahead Prices for AmerenUE (Around-the-clock prices at generator nodes weighted by unit output)

