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Witness: Jaime Haro
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2012-0166

DIRECT TESTIMONY

OF

JAIME HARO

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a Ameren Missouri

St. Louis, Missouri
February, 2012

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DIRECT TESTIMONY

OF

JAIME HARO

CASE NO. ER-2012-0166

I. INTRODUCTION

Q. Please state your name and business address.

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

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

A. I am Director, Asset Management and Trading for Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri" or "Company").

Q. Please describe your educational background and employment experience.

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

trading Ameren Missouri's power (with AE acting as Ameren Missouri's agent) in the Day 2 energy markets started by the Midwest Independent Transmission System Operator, Inc. ("Midwest ISO") on April 1, 2005. On December 31, 2006, the Joint Dispatch Agreement between AmerenUE and AmerenCIPS terminated and as a result, effective January 1, 2007, AE's activities were solely related to Ameren Missouri's generation asset management, including the trading and marketing operations. On January 1, 2008, Ameren Missouri terminated the agency relationship with AE related to generation asset management, including the trading and marketing operations. As a result, AE employees formerly responsible for these activities, including me, became employees of Ameren Missouri. At that time, I assumed my current title, Director, Asset Management and Trading ("AM&T") and added the responsibilities of marketing and asset management to my existing duties. On January 1, 2011, in conjunction with the dissolution of Ameren Energy Fuels and Services Company, I assumed responsibility over gas supply for Ameren Missouri.

Q. What are your responsibilities in your current position?

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

II. PURPOSE AND SUMMARY OF TESTIMONY

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

A. I am providing testimony in support of the level of off-system sales revenues included in the cost of service utilized for the purpose of setting Ameren Missouri's rates. The level of off-system sales revenues is also a component of the calculation of net base fuel costs, or "NBFC," against which net fuel cost changes are tracked through the Company's fuel adjustment clause ("FAC"). The calculation of NBFC is discussed in the direct testimony of Ameren Missouri witness Gary S. Weiss.

Q. Please summarize your testimony and conclusions.

A. I have determined that at this time the appropriate level of normalized annual off-system sales revenues to use in determining the Company's revenue requirement and to set NBFC in the Company's FAC is $360.1 million. It must be noted that the Company intends to true-up off-system sales revenues as of the end of the proposed true-up period in this case (July 31, 2012), which means this amount will, in all likelihood, change. The focus of my direct testimony is on the methodology and source data for the calculation used to determine the appropriate level of normalized off-system sales revenues. Ameren Missouri's off-system sales are driven in large part by its load-serving obligations to its retail customers, the availability of its generation resources, and the cost of operating its generating resources relative to the market prices for energy and related services (i.e., capacity and ancillary services). To the extent the level of off-system sales experienced during the test year is not the result of normal conditions or does not properly reflect known and measurable changes, adjustments are necessary, as outlined in more detail below. Ameren Missouri incorporated the necessary adjustments

in its PROSYM production cost model (the operation of which is addressed in the direct testimony of Company witness Mark J. Peters) to determine the normalized level of the energy component of off-system sales to include in the determination of the Company's revenue requirement. Using the results obtained from the operation of this model, and further accounting for the remaining components of off-system sales as specified in Factor OSSR in the Company's FAC tariff, which are described in more detail later in my testimony, I determined the appropriate level of normalized off-system sales revenues to use in determining the Company's revenue requirement and to calculate Factor NBFC in the Company's FAC.

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

A. In the context of this proceeding, I use the term "off-system sales" in reference to transactions resulting from Ameren Missouri's trading activities. The net revenue from these activities comes from five primary components, as follows: (i) energy sales revenues; (ii) capacity sales revenues; (iii) ancillary services revenues; (iv) real time revenue sufficiency guarantee make whole payment ("RSG") and deviations margins, and (v) other Midwest ISO revenues. As noted, the energy sales component is the product of modeling using the Company's PROSYM model, which is run under Mr. Peters' direction. The remaining components are based upon Ameren Missouri's historical capacity sales revenues, ancillary services revenues, and miscellaneous Midwest ISO revenues, taking into account known and measurable changes.

Q. Please address your determination of the appropriate level of off-system sales revenues to include in Ameren Missouri's revenue requirement and to set the NBFC in the FAC.

A. I determined that the level of off-system sales revenues that should be included in Ameren Missouri's revenue requirement and used to set NBFC in the FAC is $360.1 million per year. This total is comprised of the following components:

1) $341.3 million of energy sales revenues;

2) $5.2 million of capacity sales revenues;

3) $11.5 million of ancillary services revenues;

4) $1.6 million of RSG/deviations margins; and

5) $0.504 million of miscellaneous Midwest ISO revenues.

III. ENERGY SALES REVENUES

Q. How is the PROSYM model used to determine the normalized energy sales revenues?

A. Under Mr. Peters' supervision, the Company runs the PROSYM production cost model using inputs adjusted for (i) weather normalization of load (addressed in the direct testimony of Ameren Missouri witness Steven M. Wills); (ii) normalization of generation outages (addressed by Mr. Peters in his direct testimony); (iii) fuel costs (i.e., nuclear fuel, coal, natural gas and oil costs), and (iv) normalized energy prices (developed by me, as discussed further below).

Q. Why was the normalized level of off-system sales of energy determined by modeling rather than utilizing actual test year off-system sales?

A. Modeling was used so that off-system sales reflect a normal year, since no particular 12-month period reflects a normal year. The test year is affected by its particular weather, generation outages, fuel costs, transmission constraints, and energy prices, among many other things. The amount of off-system sales of energy is determined from the amount of generation that is economically available to produce energy reduced by that portion of the generation that is required to serve the Company's load obligations. In any given year, weather, prices, unit availability and load characteristics vary greatly from normal. Utilizing only actual data from one specific year in setting the revenue requirement would fail to account for this volatility. In order to assure that off-system sales revenues utilized to determine the Company's cost of service and NBFC are consistent with normalized conditions, it is necessary to determine the off-system sales based on production cost modeling using normalized loads and generation. Modeling has been used by both the Company and the Staff to determine the energy component of off-system sales revenues in all of the Company's general rate proceedings over the past several years.

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

A. PROSYM has the ability to simulate Ameren Missouri's interactions with the market. The model utilizes the inputs described earlier in my testimony to simulate the dispatch of Ameren Missouri's system by utilizing the lowest cost resources to meet the hourly load requirements. As part of its hourly dispatch, the model identifies

opportunities for off-system sales based on the generation that is not being utilized to serve native load that has dispatch costs below the hourly market price for power. The model also identifies opportunities for Ameren Missouri to buy from the market to reduce the cost to serve its native load and offset generation costs. The simulated off-system sales revenues are determined based on the hourly market price received for the megawatt-hours ("MWh") that are sold to the market. I would note that the model assumes that the dispatch of Ameren Missouri's generation is "perfect"; that is, for example, it assumes that available generation units will always operate at their economically optimal level in each hour and that there is no congestion between generation and load (when in fact there often is congestion). The model also ignores the fact that load and generation differ in real time from the previous day's expectations, whereas in the real world it is impossible to achieve a perfect dispatch of a generation system considering the weather variations that affect the load, and equipment issues affecting generators' performance.

Q. What market prices were utilized to model the dispatch of Ameren Missouri's generation?

A. The PROSYM model was run using energy prices which averaged $29.67 per MWh. That price is the average of the hourly energy prices (i.e., an around-the-clock ("ATC") price) for the test year, which are themselves derived from the 36-month period ending with the anticipated true-up cutoff date in this case, July 31, 2012. The energy prices for the 36-month period are actual market energy prices received at Ameren Missouri's generating units (i.e., the day-ahead locational marginal prices ("LMPs") in the Midwest ISO energy market actually received by Ameren Missouri) during the

27-month period from August 2009 through October 2010, plus ATC basis-adjusted forward energy prices for the nine-month period from November 2011 through July 2012.[1] I propose to replace these forward energy prices with actual energy prices as part of the true-up in this case.

Q. Please explain why you chose to utilize day-ahead LMPs ("DA-LMPs") at the generator nodes.

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

[1] These forward energy prices are taken from a combination of broker quotes and published data for trading activity at the Indiana Hub (formerly known as 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 Indiana Hub and the prices that are actually realized at the Ameren Missouri.generating units.

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

A. The average sales price for off-system sales of energy resulting from the PROSYM model is $31.78 per MWh, which is higher than the input (dispatch price) of $29.67 per MWh because while the model dispatches Ameren Missouri's generation during each hour of the year, off-system sales are only made in a portion of the hours during the year and the total MWhs of generation to serve load and power purchases are greater than the total MWhs sold off-system. Consequently, the price received for the off-system sales that are made varies from the dispatch price.

Q. Please explain the change in off-system sales revenues from energy sales in this proceeding from that used to set rates in the Company's last rate case, Case No. ER-2011-0028.

A. The off-system sales revenues from energy sales included in this testimony are $29.2 million lower than those used to set rates in Case No. ER-2011-0028. This reduction is a direct result of the lower three year average price ($29.67 per MWh) for the period ending July 2012 used in this proceeding, as compared to the average price for the three year period ending February 2011 ($32.67 per MWh), which was used in Case No. ER-2011-0028. Simply put, given that the Company generally sells about 10 million MWhs of energy off-system each year, a $3 per MWh price differential results in an approximately $30 million change in off-system sales revenues from energy sales.

IV. CAPACITY SALES REVENUES

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

A. I determined that $5.2 million is the appropriate amount to include as capacity sales revenues, using capacity sales for delivery for the period, which coincides with the end of the true-up period. This is the same approach used in the Company's last rate case and as was done in that case, we intend to update this total based upon the twelve months ending with the last day of the true-up period in this case as part of the true-up phase of this this proceeding.

V. ANCILLARY SERVICES REVENUES

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

A. I have concluded that the test year level of ancillary services revenues, $11.5 million, is the appropriate level to include in total off-system sales. As was done in the prior case, we intend to true-up this level through July 2012 based upon data for the twelve month period ending July 31, 2012.

VI. REVENUE SUFFICIENCY GUARANTEE/DEVIATIONS MARGINS

Q. What level of RSG/deviations margins did you determine was appropriate to include in off-system sales?

A. As noted above these revenues are $1.6 million of Real Time Revenue Sufficiency Guarantee Make-Whole Payments (RT RSG MWP) and deviations margins. I determined this level of margins by utilizing the percentage used to determine the RSG margins as part of the true-up phase of the prior case, which was 13%. Consistent with

the methodology employed in each of the last two rate cases, we intend to update this percentage as part of the true-up process, to reflect actual amounts during the twelve months ending with the last day of the true-up period.

VII. OTHER MIDWEST ISO RELATED REVENUES

Q. What are the "other Midwest ISO related revenues"?

A. These are receipts from the Midwest ISO related to inadvertent energy from the Midwest ISO, and they totaled $504,000 during the test year.

Q. Does this conclude your direct testimony?

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 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 Ameren Missouri 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 Ameren Missouri consisting of 11 pages which has 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 2nd day of February, 2012.

Mary Hoyt
Notary Public

My commission expires: 4-11-2014

Mary Hoyt - Notary Public
Notary Seal, State of
Missouri - Jefferson County
Commission #10397820
My Commission Expires 4/11/2014