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Witness: William R. Davis
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2011-0028

DIRECT TESTIMONY

OF

WILLIAM R. DAVIS

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
September, 2010

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DIRECT TESTIMONY

OF

WILLIAM R. DAVIS

CASE NO. ER-2011-0028

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is William R. Davis. My business address is One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

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

A. I am a Senior Load Research Specialist in the Resource Planning group within the Corporate Planning department for Ameren Services Company ("Ameren Services").

Q. What is Ameren Services?

A. Ameren Services provides various corporate, administrative and technical support services for Ameren Corporation ("Ameren") and its affiliates, including Union Electric Company d/b/a AmerenUE ("Company" or "AmerenUE"). Part of that work involves analytical support for regulatory activities, including rate case support.

Q. Please describe your educational background and employment experience.

A. I received a Bachelor of Science in Economics from Illinois State University in 2002. I subsequently received a Master of Science in Economics with an emphasis in regulatory economics from Illinois State University in 2003. I had several internships during my college career, including an internship with Illinois Power Company. Upon completion of my master's degree I began working full-time for Caterpillar, Inc., at their corporate headquarters in Peoria, Illinois, as an Advanced

Quantitative Analyst in the Business Intelligence Group, with the primary duties of performing economic and sales analyses.

In May 2005, I joined Ameren Services as a Load Research and Forecasting Specialist in Corporate Planning. My duties included electricity and natural gas forecasting, load research, weather normalization, and various other sales analyses. In September 2007, I became a Senior Load Research Specialist and then moved to the Resource Planning Group in March 2009. Since then I have been the project manager for AmerenUE's 2011 integrated resource plan ("IRP").

Q. What are your responsibilities in your current position?

A. My responsibilities include general project management, resource planning analysis design and implementation, supporting cross-functional teamwork for the IRP, and managing the IRP stakeholder process. The IRP stakeholder process is the avenue through which AmerenUE shares its progress during resource planning with participating parties like the Missouri Public Service Commission ("Commission") Staff ("Staff"), the Missouri Department of Natural Resources, the Missouri Industrial Energy Consumers, the Missouri Energy Group, and the Office of the Public Counsel. I am also responsible for the development of a Demand-side Management ("DSM") financial analysis.

II. PURPOSE AND SUMMARY OF TESTIMONY

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

A. The purpose of my testimony is to propose a demand-side management cost recovery mechanism and an energy efficiency fixed cost recovery mechanism that, together, move toward implementation of the state policy of aligning AmerenUE's financial incentives to help customers use energy more efficiently.

Q. Please summarize your testimony.

A. I recommend that the Commission:

- Continue rate base treatment of DSM related expenditures but reduce the amortization period from six to three years; and
- Approve a fixed cost recovery mechanism that neutralizes the impact of the throughput incentive on the implementation of energy efficiency programs and services. The proposed mechanism will allow customers to keep all savings associated with variable costs that are reduced as a result of energy efficiency programs while also realizing the significant system benefits that result from energy efficiency programs.

III. COST RECOVERY

Q. What is AmerenUE's existing mechanism for DSM program cost recovery?

A. Between rate cases, costs for administration, research, design, development, implementation and evaluation of DSM programs are booked to a regulatory asset as they are incurred along with interest at the Company's allowance for funds used during construction ("AFUDC") rate. In the Company's rate case, the amount in the regulatory asset will be included in rate base and amortized over six years. This mechanism was agreed to in a Commission-approved settlement in the Company's 2009 rate case (Case No. ER-2010-0036) and represented an improvement to prior regulatory treatment for demand-side investments, which had previously been amortized over 10 years with rate base treatment. However, as AmerenUE's rate of investment in demand-side programs has increased, the existing mechanism is simply not sufficient to provide timely recovery of AmerenUE's expenditures in this area.

Q. Why is the current six-year amortization of the regulatory asset not sufficient?

A. First, there is no objective basis for the six-year amortization period; it was simply negotiated in the last rate case. There were no studies or references to best practices to support the six-year amortization period. Second, the utility does not acquire physical assets when it invests in energy efficiency programs; to the contrary, the utility engages in a variety of marketing strategies and incurs expenses with the goal of altering our customers' energy related purchases and consumption behavior. These repeated annual expenditures are in contrast to a one-time investment in a central station supply-side resource. In the case of a supply-side resource, once the investment enters rate base, it diminishes with annual depreciation, and only capital additions can offset this depreciation. Thus, the revenue requirement effect of the plant would start at its highest point in the first year and decline thereafter. In contrast, if DSM program expenses are capitalized, the regulatory asset continues to grow over time creating a "bubble" of costs being pushed through time. The longer the amortization period, the larger this bubble will grow, as annual DSM expenditures continue to exceed the amount recovered through the amortization. This inconsistency in the treatment of a demand-side versus a supply-side resource costs supports either a much shorter amortization period or the treatment of DSM costs as an expense.

Q. Does AmerenUE perceive risk in recovering its costs booked to the DSM regulatory asset?

A. Yes. The size of the regulatory asset bubble, as described earlier, is a concern. Higher spending levels to achieve higher levels of savings and/or a longer amortization period will create a bigger bubble.

Q. What cost recovery mechanism is AmerenUE proposing for the recovery of DSM expenditures?

A. AmerenUE is proposing that the balance of the DSM regulatory asset as of the end of the true-up period for this case, which includes all related program costs and interest accrued at the Company's AFUDC rate, be included in rate base and amortized over three years. Schedule GSW-E9 to the direct testimony of Company witness Gary S. Weiss shows that the balance, as described above, is approximately $46.4 million. As indicated in the direct testimony of AmerenUE witness Warner L. Baxter, this request for a change in the period over which accumulated DSM costs are amortized is an important interim step toward a comprehensive DSM cost recovery mechanism that fully aligns utility financial incentives with the goal of educating and supporting customers as they seek to use energy more efficiently.

IV. THE THROUGHPUT INCENTIVE

Q. Please describe the throughput incentive you mentioned earlier.

A. Traditional ratemaking allows utilities to recover both their fixed and variable costs and earn a fair return on their investments. Variable costs are those that vary with the production of energy, like the cost of fuel and purchased power, while fixed costs are associated with activities that do not vary with energy production, like the cost of constructing a plant. The fuel adjustment clause governs a majority of the Company's variable costs, while the fixed costs are largely collected using a variable rate, expressed as ¢/kWh or a combination of ¢/kWh and $/kW, applied to a weather normalized and "static" test year sales. The rates developed based on this snapshot of the relationship between the revenue requirement and sales will remain unchanged until the utility's next rate case.

Outside of a rate case, in a future period, the utility's actual revenue will be determined by the variable rate (developed based on the snapshot of test year sales), multiplied by the actual amount of electricity sales. Under traditional ratemaking, if electricity sales increase beyond those used to develop the utility's rates, the utility keeps the additional revenue. This creates an incentive for the utility to maximize the "throughput," or sales. Typically the additional revenues are not simply a bonus to the utility but rather an offset to the rising costs of service, like wages and general material costs, between rate cases. Thus, a traditional ratemaking system does not align the utility's financial incentives with helping customers use energy more efficiently, because cost recovery and fair returns on investment are achieved by selling volumes of electricity.

The implementation of energy efficiency programs causes a decrease in electricity sales, which causes the utility to lose revenue. But even more importantly, it prevents the utility from recovering a portion of its fixed costs that were being covered by the lost revenues. Any increase in regulatory lag and/or time between rate cases amplifies the disincentive for a utility to support a reduction in sales volume.

Q. What are some ways to mitigate the throughput incentive?

A. There are several ways the throughput incentive can be mitigated. One noteworthy way is to institute a decoupling mechanism. Decoupling gets its name because revenues are decoupled from sales volumes. There are various ways decoupling can be implemented, but since AmerenUE is not proposing decoupling in this case I will not review those options.

Short of decoupling, another method to mitigate the throughput incentive is to explicitly anticipate the effects of energy efficiency and reimburse the utility directly. In this case, an amount would be included in rates to offset an estimated future reduction in sales. This fits well with utility-run energy efficiency programs because the utility also has monies in the revenue requirement earmarked for the specific purpose of reducing sales in a future period. The imminent reduction in sales can be estimated at the time rates are being set. However, this option is focused solely on mitigating the effect of energy efficiency programs administered by the utility.

Q. How is energy efficiency different than other causes of sales volatility?

A. One unique aspect is that energy efficiency is only associated with downward pressure on electricity sales. Other causes of sales variation, like weather and the economy, can cause both increases and decreases to sales volumes. Another unique aspect of energy efficiency is that although it can happen naturally, there are ways to induce it. In this case we are discussing the impacts of utility-run programs, but other sources that can induce energy efficiency are programs run by the federal government and state-run programs like those currently being administered by the Missouri Department of Natural Resources. This is in contrast to other sources of variation, like the weather and the economy, which are clearly outside the control of the utility and any other single party.

Q. Please describe the Fixed Cost Recovery Mechanism being proposed by AmerenUE in this case.

A. The Fixed Cost Recovery Mechanism ("FCRM") seeks to recover fixed costs that the utility would normally expect to recover through the sale of energy absent the implementation of energy efficiency programs. A base amount of fixed cost recovery would be built into rates based on expected energy efficiency impacts. The FCRM would also include a tracker that tracks the difference between the base amount and the actual impacts of energy efficiency. In this case, AmerenUE proposes that rates be set with zero prospective fixed cost recovery related to energy efficiency impacts. Ideally, we would request a starting amount that is representative of the expected energy efficiency impacts, then true-up that estimate in subsequent rate cases. However, because this would be the first implementation in Missouri of such a mechanism, we are proposing to start with no initial impact to rates. Periodically between rate cases the actual impacts of energy efficiency on the recovery of fixed costs will be compared to the base amount (in this case, zero), with the difference accumulated in a regulatory asset balance to be amortized over 12 months beginning with the effective date of new rates as set in the Company's next general rate case. The regulatory asset would include the carrying cost, or credit, associated with the regulatory asset balance at the Company's AFUDC rate.

Q. How do you propose the FCRM amounts should be calculated?

A. The calculation should start with the overall revenue requirement by class. Then the revenues from the customer charge and from net fuel costs should be subtracted from the overall class revenue requirement. Those portions are removed because the customer charge revenues are not affected by energy efficiency impacts and the customer retains all benefits from the reduction in net fuel cost due to energy efficiency impacts. The remaining revenue requirement represents fixed costs that are collected through volumetric and/or demand rates. That can be expressed as a ¢/kWh rate and should be multiplied by the energy efficiency impacts. Since the energy efficiency programs are administered by separate residential and business tariffs, the impact will be allocated to each rate class on the basis of actual savings. Included only as an example of the calculations described above is Schedule WRD-E1, which illustrates the proposed calculations, and Schedule WRD-E2, which illustrates how the FCRM works over time.

Q. How do you propose the FCRM be collected from customers?

A. In this case the base amount requested is zero, but in AmerenUE's next rate case there will be a need to recover the amount that will have been accumulated in the tracker plus set a new base amount to be included in rates. As mentioned previously, AmerenUE proposes that the FCRM tracker balance be amortized and collected over a 12 month period. For both the Residential 1(M) and Small General Service 2(M) customer classes, a monthly fixed charge should be utilized because customers within each of these respective classes have fairly homogenous usage patterns. However, due to the widely varying usage patterns of customers within the remaining business classes, a variable charge (¢/kWh) would be more appropriate for these classes. Although the base amount will continuously be collected between rate cases, the tracker related charges will be reset to zero after the 12 month collection period. Schedule WRD-E3 provides an example of the proposal described above.

Q. Shouldn't the FCRM be based on the performance of energy efficiency programs?

A. No, it should not. AmerenUE should simply be made whole for the reductions in fixed cost recovery created by the existence of its energy efficiency programs, regardless of the performance of any particular program. The FCRM should be implemented to level the playing field between supply-side and demand-side resources. Any performance-related incentives that might be proposed in the future should serve to further encourage utilities to be more aggressive in the pursuit of energy efficiency. AmerenUE is not proposing any such incentives at this time.

Q. Does AmerenUE's proposal eliminate the throughput incentive?

A. No, however AmerenUE believes the proposal is sufficient to support the continuation of current levels of energy efficiency expenditures. It is important to recognize that utility sponsored programs are only one source of fixed cost recovery erosion. To fully align utility incentives such that the utility can partner with third party energy efficiency or conservation efforts, more steps need to be taken to adequately address the throughput incentive. In this regard, AmerenUE supports the continued exploration of long-term solutions by the Commission, Staff, utilities, and other parties.

V. <u>CONCLUSION</u>

Q. Should the Commission wait for the Missouri Energy Efficiency Investment Act ("MEEIA") rules to be finalized to approve AmerenUE's proposals?

A. No, in fact this is a good time for the Commission to approve AmerenUE's proposal. First, AmerenUE's proposal represents an appropriate transitional approach to aligning utility financial incentives to help customers use energy more efficiently. Second, although development of the Commission's rules governing energy efficiency is ongoing, this case will likely take 11 months to finish, therefore, any implications of the rules could be accommodated during the case.

Q. How do AmerenUE's proposals for cost recovery and the FCRM compare to cost recovery mechanisms used by other utilities across the country?

A. Attached to this testimony as Schedule WRD-E4 is a report from the Institute for Electric Efficiency that gives a recent overview of DSM regulatory frameworks across the United States. Also attached is Schedule WRD-E5, which is a report from the National Action Plan for Energy Efficiency ("NAPEE") that explains various options to align utility incentives with the implementation of energy efficiency. The NAPEE report directly states capitalization and amortization is **not** a common approach to DSM cost recovery. The reports indicate the proposed FCRM is not unique; in fact, both reports describe examples that are very similar to AmerenUE's proposal.

Q. Is AmerenUE's proposal consistent with the Energy Independence and Security Act of 2007[1], the American Recovery and Reinvestment Act of 2009[2], and Governor Nixon's letter of March 23, 2009 to the United States Secretary of Energy, Mr. Steven Chu?

A. Yes. In general all of these documents advocate for the enhanced proliferation of energy efficiency. These documents also recognize the need to take additional actions before that proliferation of energy efficiency is possible. If AmerenUE's proposal in this case is adopted, it will result in more energy efficiency than

[1] Pub. L. 110-140.
[2] Pub. L. 111-5.

would be implemented under the current regulatory framework, which is entirely consistent with the goals of the state and country.

Because of their size and scope, I am not attaching the Energy Independence and Security Act of 2007 or the American Recovery and Reinvestment Act of 2009 (although I will provide these documents as workpapers) but am attaching, as Schedule WRD-E6, Governor Nixon's letter of March 23, 2009 to the United States Secretary of Energy, Mr. Steven Chu.

Q. Please summarize your testimony and conclusions.

A. As mentioned in the direct testimony of Mr. Baxter, for AmerenUE to continue spending at current levels on energy efficiency, the Company's financial incentives need to be more closely aligned with helping customers use energy more efficiently. Specifically I recommend that the Commission:

- Continue rate base treatment of DSM related expenditures but reduce the amortization period from six to three years; and
- Approve a fixed cost recovery mechanism that neutralizes the impact of the throughput incentive on the implementation of energy efficiency programs and services. The proposed mechanism will allow customers to keep all savings associated with variable costs that are reduced as a result of energy efficiency programs while also realizing the significant system benefits that result from energy efficiency programs.

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 AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.	)))))	Case No. ER-2011-0028

AFFIDAVIT OF WILLIAM R. DAVIS

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

William R. Davis, being first duly sworn on his oath, states:

1. My name is William R. Davis. I work in the City of St. Louis, Missouri, and I am employed by Ameren Services Company as Senior Load Research Specialist.

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 12 pages, Schedules WRD-E1 through WRD-E6, 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 R Davis
William R. Davis

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

Amanda Tesdall
Notary Public

My commission expires:

Amanda Tesdall - Notary Public
Notary Seal, State of
Missouri - St. Louis County
Commission #07158967
My Commission Expires 7/29/2011

AmerenUE
Fixed Cost Recovery Mechanism (FCRM) Tracker

	Total KWh	Total Bills	Revenue Requirement	Customer Charge Revenue	Fuel and Purchase Power Revenue	Fixed Cost Revenue	Fixed Cost Recovery Rate ($/KWh)	Cumulative Effects of EE 2010	Cumulative Effects of EE 2011
Residential	13,685,142,879	12,455,487	$ 1,081,602,058	$ 99,647,812	$ 164,084,863	$ 817,869,382	$ 0.060	$ 4,397,545	$ 10,715,735
SGS	3,590,585,745	1,597,860	$ 280,065,240	$ 18,777,714	$ 43,051,123	$ 218,236,403	$ 0.061		
LGS	8,187,231,203	119,652	$ 515,405,156	$ 9,505,444	$ 98,164,902	$ 407,734,810	$ 0.050		
SPS	3,567,421,881	7,638	$ 197,360,396	$ 1,978,373	$ 42,773,388	$ 152,608,635	$ 0.043		
LPS	3,922,167,697	876	$ 185,825,421	$ 227,289	$ 47,026,791	$ 138,571,342	$ 0.035		
						Weighted Average:	$ 0.048	$ 3,950,618	$ 9,584,663
Other									
LTS	4,119,017,867	12	$ 139,359,659	$ 3,105	$ 46,338,951	$ 93,017,602	$ 0.023		
Lighting & MSD	230,287,215		$ 31,295,159						
Total	37,301,854,488		$ 2,430,913,089		$ 441,440,018			$ 8,348,163	$ 20,300,399

FPA Rate
1.111

Voltage Level Adjustments for FPA Rate		
Voltage Level	Adjustment Factor	Adjusted FPA Rate
Secondary	1.0789	1.199
Primary	1.0459	1.162
Large Transmission	1.0124	1.125

Incr. EE Targets	2010	2011
RES	75,230,000	108,087,000
BUS	85,000,000	121,220,000

Current Business EE Savings		
Rate Class	MWh	Percent of Total
SGS	4,703	8.9%
LGS	29,407	55.8%
SPS	14,804	28.1%
LPS	3,770	7.2%

ATC Price for OSS
$ 0.03615

Customer Impact in FAC

Energy Efficiency Impacts to Fuel and Purchase Power

2010	Total Reduction in FAC	Fuel Impact	OSS Impact	Customer Savings
RES	$ (902,008)	$ (856,907)	$ 2,727,428	$ 2,772,528
SGS	$ (90,978)	$ (86,429)	$ 275,092	$ 279,641
LGS	$ (568,866)	$ (540,423)	$ 1,720,098	$ 1,748,541
SPS	$ (277,540)	$ (263,663)	$ 839,441	$ 853,318
LPS	$ (70,679)	$ (67,145)	$ 213,773	$ 217,307
BUS	$ (1,008,062)	$ (957,659)	$ 3,048,404	$ 3,098,807
Total	$ (1,910,070)	$ (1,814,566)	$ 5,775,832	$ 5,871,335

2011	Total Reduction in FAC	Fuel Impact	OSS Impact	Customer Savings
RES	$ (1,295,963)	$ (1,231,165)	$ 3,918,643	$ 2,687,478
SGS	$ (129,745)	$ (123,257)	$ 392,313	$ 269,056
LGS	$ (811,270)	$ (770,707)	$ 2,453,062	$ 1,682,355
SPS	$ (395,805)	$ (376,014)	$ 1,197,142	$ 821,128
LPS	$ (100,796)	$ (95,756)	$ 304,865	$ 209,109
BUS	$ (1,437,615)	$ (1,365,734)	$ 4,347,382	$ 2,981,648
Total	$ (2,733,578)	$ (2,596,899)	$ 8,266,025	$ 5,669,126

Company Impact in FAC

Energy Efficiency Impacts to Fuel and Purchase Power

2010	Total Reduction in FAC	Fuel Impact	OSS Impact	Net FAC Impact
RES	$ (902,008)	$ (45,100)	$ 143,549	$ 98,448
SGS	$ (90,978)	$ (4,549)	$ 14,479	$ 9,930
LGS	$ (568,866)	$ (28,443)	$ 90,531	$ 62,088
SPS	$ (277,540)	$ (13,877)	$ 44,181	$ 30,304
LPS	$ (70,679)	$ (3,534)	$ 11,251	$ 7,717
BUS	$ (1,008,062)	$ (50,403)	$ 160,442	$ 110,039
Total	$ (1,910,070)	$ (95,503)	$ 303,991	$ 208,488

2011	Total Reduction in FAC	Fuel Impact	OSS Impact	Net FAC Impact
RES	$ (1,295,963)	$ (64,798)	$ 206,244	$ 141,446
SGS	$ (129,745)	$ (6,487)	$ 20,648	$ 14,161
LGS	$ (811,270)	$ (40,564)	$ 129,109	$ 88,545
SPS	$ (395,805)	$ (19,790)	$ 63,007	$ 43,217
LPS	$ (100,796)	$ (5,040)	$ 16,046	$ 11,006
BUS	$ (1,437,615)	$ (71,881)	$ 228,810	$ 156,929
Total	$ (2,733,578)	$ (136,679)	$ 435,054	$ 298,375

AmerenUE
Fixed Cost Recovery Mechanism (FCRM) Tracker
(Dollars in Millions)

	Rate Case Filed 2010	2011	2012	Rate Case Filed 2013	2014	2015	2016
1 Annual EE Sales Impact (GWh) (Target from EE Implementation Plan)		100	150	200	250	300	350
2 EE Sales Impact reflected in Base Rates		10	10	10	150	150	150
3 Incremental Sales Reduction (GWh) (line 1 - line 2) (EE Sales Impacts not reflected in Base Rates)		90	140	190	100	150	200
4 2-year Forecast Average of EE Impacts (GWh)	115			125			
5 Forecast Average Non-fuel Retail Rate ($/MWh)	40			50			
6 FCRM Amount (line 4 * line 5, Million Dollars)	0			6			
7 Fixed Costs Recovered		0	0	0	6	6	6
8 Annual Estimated Revenue Erosion		4	6	8	5	8	10
9 Amount Over/(Under)-Collected (line 7 - line 8)		(4)	(6)	(8)	1	(2)	(4)
10 Over/(Under)-Recovery Regulatory Asset Balance		(4)	(9)	(17)	(7)	(8)	(12)
11 Over/(Under)-Recovery Amount to be Amortized				(9)			
12 Amortization of Over/(Under)-Recover Amount (12-month amortization beginning when new rates are effective)					9		
13 Total Collections Related to FCRM Tracker (line 7 + line 12)		0	0	0	15	6	6

Note: Example ignores the accrual of carrying costs during accumulation and return during amortization for simplicity.

AmerenUE - Fixed Cost Recovery Mechanism Tracker
Proposed Recovery Method Example

Proposed Collection Method - 12 Month Period				
Dollars ($)/Bill			Total Collected	
Residential	$	0.86	$	10,715,735
SGS	$	0.54	$	855,605
Cents/KWh				
LGS		0.06534¢	$	5,349,939
SPS		0.07550¢	$	2,693,253
LPS		0.01749¢	$	685,866
Other	$	-	$	-
LTS	$	-	$	-
Lighting & MSD	$	-	$	-
			$	20,300,399