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Investment Act of 2009  
Witness: Allen D. Dennis  
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Case No.: EO-2012-0008  
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**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO.: EO-2012-0008**

**DIRECT TESTIMONY**

**OF**

**ALLEN D. DENNIS**

**ON BEHALF OF**

**KANSAS CITY POWER & LIGHT COMPANY**

**Kansas City, Missouri  
December 2011**

**Certain Schedules Attached To This Testimony  
Contain Highly Confidential Information.  
All Such Information Should Be Treated Confidentially  
Pursuant To 4 CSR 240-2.135.**

**DIRECT TESTIMONY**

**OF**

**ALLEN D. DENNIS**

**Case No. EO-2012-0008**

1    **Q:    Please state your name and business address.**

2    A:    My name is Allen D. Dennis. My business address is 1200 Main St., Kansas City,  
3        Missouri 64105.

4    **Q:    By whom and in what capacity are you employed?**

5    A:    I am employed by Kansas City Power & Light Company (“KCP&L”) as Director, Energy  
6        Solutions.

7    **Q:    What are your responsibilities?**

8    A:    My responsibilities include providing leadership and direction to the Customer Solutions,  
9        Products and Services, Economic Development and Market Intelligence Teams. My  
10       duties include initiating and bringing to market new products, as well as improvements  
11       and innovations to existing affordability, energy efficiency, and demand response  
12       products and services.

13   **Q:    Please describe your education, experience and employment history.**

14   A:    I graduated from Colorado State University with a Bachelor of Science degree in  
15       Mechanical Engineering in 1981. I began my utility career at Public Service Company of  
16       Colorado and, over the course of 14 years, held various positions including marketing  
17       engineer, marketing project specialist, manager of electric wholesale and cogeneration  
18       markets, and manager of bulk power business development.

1           Following my career at Public Service Company of Colorado, I served as  
2           Director, Power Marketing for KN Energy, where I formed the electric trading and  
3           marketing area. I then became Executive Vice President and co-founder of Enserco  
4           Energy, an energy trading, marketing, and services company, and co-founder and board  
5           member of Hometown Connections, a company focused on offering products and  
6           services to public power utilities.

7           In 2003, I served as a Director in the Enterprise Consulting Division for Black &  
8           Veatch and was responsible for the energy practice and consulting with clients on  
9           integrated resource plans, risk management and operational improvements.

10          In 2004, I began my employment at KCP&L as the Manager, Market  
11          Management. In this capacity, I managed KCP&L's Energy Consultants and  
12          Commercial and Residential Sales functions. I assumed the position of Director,  
13          Products and Services in 2007 and my current position in 2011.

14   **Q: Have you previously testified in a proceeding at the Missouri Public Service**  
15   **Commission ("MPSC" or "Commission") or before any other utility regulatory**  
16   **agency?**

17   A: Yes. I have previously filed testimony before the Kansas Corporation Commission in  
18          Docket Nos. 09-KCPE-246-RTS and 10-KCPE-795-TAR, and in KCP&L and KCP&L  
19          Greater Missouri Operations Company's 2009 rate cases before the MPSC.

20   **Q: What is the purpose of your testimony?**

21   A: The purpose of my testimony is fourfold:

22          (1) Outline KCP&L's existing portfolio of demand-side management ("DSM")  
23          programs and the filing of new tariffs to extend these programs;

- 1 (2) Outline five new programs to KCP&L's DSM portfolio;
- 2 (3) Demonstrate the cost effectiveness of each existing and new program tariff filing;
- 3 and
- 4 (4) Address how KCP&L's portfolio of DSM programs will be modified if the
- 5 Commission elects to deny KCP&L's cost recovery request.

6 **Q: Do you sponsor any schedules with your direct testimony?**

7 A: Yes, I sponsor the following schedules:

- 8       ▪ Schedule ADD-1: Appendices C and C-1 through C-10, Customer Program
- 9       Investments, from the Stipulation and Agreement in Case No. EO-2005-0329
- 10       ("0329 S&A");
- 11       ▪ Schedule ADD-2: Affordability, Energy Efficiency, and Demand Response,
- 12       KCP&L Missouri Program Summary of Budget to Actual as of September 30,
- 13       2011;
- 14       ▪ Schedule ADD-3: Quarterly Status Update Report for the 0329 S&A as of
- 15       December 31, 2010;
- 16       ▪ Schedule ADD-4: Program information for proposed new programs in the DSM
- 17       portfolio;
- 18       ▪ Schedules ADD-5 through ADD-12: Completed Evaluation, Measurement, and
- 19       Verification ("EM&V") Reports for KCP&L's existing DSM programs and
- 20       associated benefit-cost test results for each evaluation report;
- 21       ▪ Schedule ADD-13: Potential Studies for both the residential and commercial
- 22       sectors as follows:

- 2010 Multifamily Study. KCP&L and GMO commissioned KEMA, Inc. to study the multi-family market sector. The study was aimed at providing technical, economic and market potential analyses specific to both KCP&L and GMO, with the goal of identifying energy efficiency opportunities throughout the multi-family customer sector.
- 2006 KEMA Demand Response Study. KCP&L retained the team of KEMA Services Inc. and UtiliPoint International to develop a robust portfolio of demand price response programs directed to all customer classes.
- 2006 Statewide Saturation Study. KCP&L participated in the Utility Collaborative Study, “2006 Missouri Statewide Residential Lighting and Appliance Efficiency Saturation Study,” conducted by RLW Analytics. The study was designed to serve the Missouri investor-owned and municipal utilities to provide baseline information on residential appliance, building, equipment and lighting saturations and efficiencies.
- 2007 Residential Potential Analysis. KCP&L engaged RLW Analytics to conduct additional residential market research aimed at providing technical, market and economic analyses that would be specific to the KCP&L service area, with the goal of identifying key characteristics for energy efficiency opportunities.
- 2007 Commercial and Industrial Potential Study. KCP&L hired Summit Blue Consulting and Energy Insights in January 2007 to conduct a C&I energy efficiency potential study. This study was requested to assist in

fulfilling the goals of the DSM aspects of KCP&L's Comprehensive Energy Plan ("CEP").

- 2008 Commercial and Industrial Program Study. Morgan Marketing Partners and its subcontractors Architectural Energy Corporation and Franklin Energy Services were retained by KCP&L to determine cost effective C&I programs and measures for its energy efficiency programs.

- Schedule ADD-14: Program analyses and savings metrics based upon the EM&V report for each program;
- Schedule ADD-15: Tariff sheets freezing the CEP existing DSM programs and new tariffs implementing KCP&L's existing DSM programs under the terms of MEEIA; and
- Schedule ADD-16: Tariffs for KCP&L's proposed new programs.

#### **KCP&L'S EXISTING DSM PORTFOLIO AND PROGRAM RESULTS**

**Q: Please describe KCP&L's current DSM program portfolio.**

A: KCP&L's current portfolio was put in place over a period of time beginning in late 2005 as a result of the 0329 S&A approved by the Commission. Specifically, Appendices C-1 through C-10 of the 0329 S&A identified fourteen DSM programs and a market research program that KCP&L agreed to pursue and Appendix C set out the anticipated budget for development and implementation of those programs over a five-year time horizon for each program. (See attached Schedule ADD-1). Thirteen of the DSM programs have been developed and proposed for approval to the Commission. This portfolio of programs represents a significant commitment on the part of KCP&L to promote energy efficiency and demand response and to ensure that all classes of customers have

programs in which they can participate. This commitment to DSM by a Missouri utility was unprecedented at the time of the 0329 S&A and continues to represent the broadest utility DSM reach in the State.

The following table presents KCP&L's existing DSM portfolio of programs split into three categories as identified in the 0329 S&A: Demand Response, Energy Efficiency, and Affordability. The table also shows whether each program serves residential or commercial & industrial ("C&I") customers. The Affordability programs are specifically targeted to low income residential customers.

<b>KCP&amp;L DEMAND-SIDE MANAGEMENT PROGRAM PORTFOLIO (Current)</b>		
PROGRAM TYPE	CLASS OF CUSTOMER SERVED	
	Residential	C&I
<b>Demand Response</b>	Air Conditioning Cycling (Energy Optimizer)	Air Conditioning Cycling (Energy Optimizer) MPower
<b>Energy Efficiency</b>	ENERGY STAR® New Homes Cool Homes Home Energy Analyzer Home Performance with ENERGY STAR®	Energy Audit Energy Savings Measures – Retrofit Energy Savings Measures – New Construction Business Energy Analyzer Building Operator Certification
<b>Affordability</b>	Low Income Weatherization Affordable New Homes	

**Q: How much did the 0329 S&A envision KCP&L would invest in these programs over the five-year period?**

**A:** As shown in Schedule ADD-1, KCP&L anticipated total investment of approximately \$53 million on these programs in our KCP&L Kansas and KCP&L Missouri service territories considering a five-year timeframe for each program. The Missouri

jurisdictional share of this amount was approximately \$27 million.

**Q: How much has KCP&L invested in these Missouri programs so far?**

A: As of September 30, 2011, KCP&L had invested over \$41 million in these Missouri programs. Schedule ADD-2 presents a summary of budget to actual results for each existing DSM program through September 30, 2011. As you can see from the investment summary tables, some programs have been in place for more years than others and some have invested a smaller portion of their original budget while others have exceeded their original budgets. These individual program investment differences are largely related to the timing of introduction, approval and implementation of each program as well as the general success of each program to date.

**Q: Have KCP&L's demand response programs been successful?**

A: Yes, both the primarily residential program, Energy Optimizer, and the C&I program, MPower, have been exceedingly well received by KCP&L's customers. Energy Optimizer has exceeded the goals that KCP&L set for the program. As of September 30, 2011, KCP&L had installed over 40,000 thermostats under the Energy Optimizer program with approximately 21,000 having been installed in Missouri. This represents 36 MWs of curtailable load with over 18 MWs in Missouri. There were 422 participants in the MPower program as of September 30, 2011 with 231 in Missouri. This represents 83 MW of curtailable load with 54 MWs in Missouri.

**Q: What about KCP&L's energy efficiency programs; have they also been successful?**

A: Yes, they have. KCP&L estimates that over 167,000 MWh have been saved through September 30, 2011, of which an estimated 97,000 MWh come from KCP&L's Missouri customers.



**Q: What level of participation have you seen in your energy efficiency programs?**

A: As of September 30, 2011, we had approximately 36,400 Missouri customers using our Home Energy Analyzer program (74,600 total KCP&L customers), 1,302 Missouri customers using our Business Energy Analyzer program (2,217 total KCP&L customers), 7,668 Missouri customers participating in our Cool Homes program (23,838 total KCP&L customers), 1,538 Missouri customers participating in our Home Performance with Energy Star program (2,584 total KCP&L customers), 1,389 Missouri homes that were built through participation in our ENERGY STAR® New Homes program (2,779 total KCP&L customers), and 149 Missouri participants in our Building Operator Certification program (192 total KCP&L customers). Additionally, KCP&L has provided 693 rebates to Missouri customers under the Energy Audit, Energy Saving Measures – Retrofit and Energy Savings Measures – New Construction (“C&I Rebate”) program (1,208 rebates total Company).

**Q: Have your Affordability programs met with the same success as your Demand Response and Energy Efficiency programs?**

A: The Affordability programs have had mixed success; the Low Income Weatherization program has been moderately successful, but the Affordable New Homes program has been a challenge with respect to participation.

**Q: What level of participation and savings have you achieved with the Affordability programs?**

A: Overall, KCP&L estimates that these programs have added an additional 2,083 MWh of energy savings as of September 30, 2011, of which an estimated 1,986 MWh come from KCP&L’s Missouri customers. Over 784 homes have been weatherized under KCP&L’s

1 Low Income Weatherization program Company-wide, with approximately 747 of those  
2 homes being in Missouri.

3 KCP&L's Affordable New Homes program has had nine program participants in  
4 Missouri as of September 30, 2011. As I will discuss later in my testimony, this program  
5 has not met the expected success in Missouri and KCP&L is requesting to discontinue  
6 this program as part of this filing.

7 **Q: Please provide a summary of each of the programs within KCP&L's current DSM**  
8 **portfolio.**

9 A: Certainly. In addition to the following summary, I have attached the sections of the  
10 fourth quarter 2010 quarterly status update report for the 0329 S&A (the "Quarterly  
11 Report") as Schedule ADD-3. The following provides a brief summary of each program  
12 within KCP&L's current portfolio as well as the progress achieved with each program.

13 **DEMAND RESPONSE PROGRAMS**

14 **Energy Optimizer:** The Energy Optimizer program is an air conditioning cycling  
15 program by which KCP&L can reduce residential and small commercial air conditioning  
16 load during peak summer days. This load reduction is achieved by sending a paging  
17 signal to a control device in a thermostat attached to the customer's air conditioner. The  
18 control device then turns the air conditioner off and on, or ramps up the temperature over  
19 a period of time, depending on the load reduction strategy established by KCP&L.

20 **MPower:** MPower is a contracted load curtailment program for large C&I customers  
21 that provides a capacity and energy payment to participating customers to curtail their  
22 usage during summer months when high electric demand occurs. Customers are eligible  
23 for participation in the program by providing a minimum load reduction of 25 kW during

1 KCP&L's high usage/high cost periods.

## 2 **ENERGY EFFICIENCY PROGRAMS**

3 **Home Energy Analyzer:** The Home Energy Analyzer provides information to  
4 customers on how they use energy based on their specific usage data. It also provides  
5 information on ways customers can save energy and what their payback might be based  
6 upon the improvements made.

7 **Cool Homes:** This program is designed as a re-commissioning/early replacement  
8 program. Early replacement targets the replacement of electric cooling equipment that  
9 has a seasonal energy efficiency ratio ("SEER") of eight and below with SEER 14 or  
10 higher equipment. All installations utilize CheckMe!®, a software program that ensures  
11 quality installation through proper charging of the refrigerant and airflow over evaporator  
12 coils using accurate instruments, while the contractor is at the premise. Those who  
13 request and receive a cooling system evaluation also receive complimentary compact  
14 fluorescent lamps ("CFLs"), which are anticipated to add to the savings achieved through  
15 this program.

16 **Home Performance with ENERGY STAR®:** Home Performance with ENERGY  
17 STAR® is a national program from the U.S. Environmental Protection Agency and U.S.  
18 Department of Energy. It is an innovative program that strives to produce an  
19 economically sustainable model that captures significant energy savings by encouraging a  
20 whole-house approach to energy efficiency improvements in existing homes. The  
21 program begins with a whole-house energy assessment performed by Building  
22 Performance Institute (BPI) trained and certified contractors or consultants.

1 The infrastructure is then provided for homeowners to follow through and complete  
2 energy improvements to their homes.

3 **ENERGY STAR® New Homes:** ENERGY STAR® New Homes requires that new  
4 homes be constructed to a standard at least 15 percent more energy efficient than the  
5 2004 International Residential Code. These standards are based on heating, cooling, and  
6 hot water energy use; and are typically achieved through a combination of building  
7 envelope upgrades, high performance windows, controlled air infiltration, upgraded  
8 heating and air conditioning systems, tight duct systems and upgraded water-heating  
9 equipment. Homes can be qualified as an ENERGY STAR® new home through two  
10 different paths. The prescriptive path uses Building Option Packages which represent a  
11 set of construction specifications for a specific climate zone. The performance path  
12 qualifies the home based on a home energy rating. This program was designed in a  
13 coordinated effort between the Metropolitan Energy Center and the Kansas City Home  
14 Builders Association--Build Green Committee. The program is currently designed to  
15 offer builders an \$800 rebate for each home that is built to the ENERGY STAR®  
16 requirements. KCP&L will also pay up to \$750 for the third-party inspection and/or  
17 rating required to qualify the home as ENERGY STAR® label.

18 **Building Operator Certification:** Building Operator Certification is a market  
19 transformation effort to train facility operators in efficient building operations and  
20 management, establish recognition of and value for certified operators, support the  
21 adoption of resource-efficient O&M as the standard in building operations and create a  
22 self-sustaining entity for administering and marketing the training.

1        **Business Energy Analyzer:** The Business Energy Analyzer provides information to  
2        business customers on how they use energy based on their specific usage data. It  
3        provides information on ways they can save energy and what their payback might be  
4        based on the improvements made. It also allows businesses to benchmark themselves  
5        against like businesses.

6        **Energy Audit and Energy Savings Measures Rebate Rider:** This C&I program  
7        includes three components: audit, custom rebates for retrofit projects, and custom rebates  
8        for new construction projects. For the C&I Energy Audit Rebate, KCP&L offers rebates  
9        to customers to cover 50 percent of the cost of an energy audit, up to \$300 for customers  
10       with facilities less than 25,000 square feet and up to \$500 for customers with facilities  
11       over 25,000 square feet. Customers with multiple facilities may apply for multiple audit  
12       rebates. In order to receive the rebate, the customer must implement at least one of the  
13       audit recommendations that qualify for a KCP&L C&I Energy Savings Measures Custom  
14       Rebate. Only one Missouri customer has applied for an audit rebate. Most equipment  
15       installing contractors absorb the cost of the audit for customers who purchase equipment.  
16       Expenditures associated with this program to date are based on administrative expense  
17       and the cost of certifying auditors for the program.

18                Within the retrofit and new construction components of the Energy Audit and  
19        Energy Saving Measures Rebate Rider, a small general service customer may also apply  
20        for rebates from a prescriptive list of energy-efficiency measures. These measures  
21        include lighting, lighting controls, air conditioning and motors.

1       **AFFORDABILITY PROGRAMS**

2       **Low Income Weatherization:** KCP&L partners with Community Action Plan (“CAP”)  
3 agencies within the state of Missouri that provide weatherization assistance to low  
4 income individuals and families. Qualified lower income customers can get help  
5 managing their energy use and bills through KCP&L’s Low Income Weatherization  
6 program. The program works directly with local CAP agencies that already provide  
7 weatherization services to low income customers. KCP&L provides supplemental funds  
8 to the CAPs to cover the cost of additional cost-effective weatherization measures.

9               KCP&L owner-occupied residential customers in one to four-unit structures with  
10 income up to 200 percent of the federal poverty guidelines may participate. Renters are  
11 also allowed to participate if the landlord pays 50 percent of the weatherization cost and  
12 agrees not to raise the rent for a pre-agreed period of time.

13       **Low Income Affordable New Homes:** The Low Income Affordable New Homes  
14 program is designed to be a partnership between KCP&L and organizations to achieve  
15 energy efficient affordable new housing for the low income community. Financial  
16 incentives are available at the full incremental cost for high efficiency central air  
17 conditioners and heat pumps. An incentive is available toward the purchase of an  
18 ENERGY STAR<sup>®</sup> rated refrigerator, toward the purchase of ENERGY STAR<sup>®</sup> rated  
19 lighting fixtures, and toward installing higher than standard levels of insulation in the  
20 attic, floor, or crawlspace.

21               I will address later in my testimony KCP&L’s proposal to discontinue the Low  
22 Income Affordable New Homes program.

**PROPOSED PORTFOLIO CHANGES**

**Q: What changes to its DSM portfolio is KCP&L requesting?**

A: KCP&L is requesting three types of changes to its existing DSM portfolio of programs: discontinuance of one program, modification of several existing programs and the addition of five new programs.

**Q: What program is KCP&L proposing to discontinue?**

A: As mentioned earlier in my testimony, KCP&L is proposing to discontinue its Low Income Affordable New Homes tariff.

**Q: Why is KCP&L proposing to discontinue the Low Income Affordable New Homes program?**

A: Since the Low Income Affordable New Homes program launched in Missouri in February 2007, minimal participation has occurred. This is largely because the economic downturn has caused a decrease in new construction. Typically construction of new homes for low income is in the form of multi-family units, which is not eligible under this program.

**Q: Is KCP&L proposing to discontinue any other existing DSM programs?**

A: No, it is not.

**Q: Which of its current DSM programs has KCP&L identified for modification?**

A: KCP&L is proposing specific modifications to its Cool Homes program, ENERGY STAR<sup>®</sup> New Homes program, Building Operator Certification program, MPower program, Energy Optimizer program and Energy Audit and Energy Savings Measures Rebate Rider.

1   **Q:    What specific changes to these programs are being requested?**

2   A:    The following summary provides the proposed modifications to each of the program  
3       tariffs.

4           ▪   **ENERGY STAR® New Homes**

- 5               ○ Consistent with ENERGY STAR® guidelines for multi-family units, add  
6               tariff language to include multi-family units greater than three stories if  
7               (1) the structure is permitted as residential by the local building  
8               department; and (2) each individual residential unit has its own heating,  
9               cooling, and hot water systems, separate from the other units.
- 10             ○ Include an annual maximum rebate cap per builder per development of  
11             \$150,000 in order to prevent exhaustion of the program budget due to  
12             large multi-family projects.

13          ▪   **MPower Program**

- 14             ○ Delete Energy Purchase Option. This option has not been used by  
15             customers.
- 16             ○ Delete Curtailment Excess of Customer Load section. Payments made  
17             under this provision are negligible. The deletion of this provision is  
18             expected to reduce customer confusion and increase efficiency in program  
19             administration.

20          ▪   **Energy Audit and Energy Savings Measures Rebate Rider**

- 21             ○ Rename tariff to C&I Rebate program.
- 22             ○ Eliminate the rebate for a completed audit. This portion of the program  
23             has not been successful and has not had any participants.



- Increase annual customer maximum rebate levels such that the maximum is limited up to \$150,000 per site per program year and up to \$250,000 per customer per program year. This change is expected to incent larger energy efficiency projects and will allow a customer to submit more applications for multiple sites up to these maximums.

- **Energy Optimizer**

- Change the name of the tariff schedule to Schedule EO (Energy Optimizer) from Schedule ACC (Air Conditioner Cycling).

Tariff sheets freezing KCP&L's existing CEP DSM programs and new tariffs for the current DSM programs that KCP&L wishes to make part of its MEEIA DSM portfolio are attached to my testimony as Schedule ADD-15.

**Q: Is KCP&L proposing to add any new programs to its DSM portfolio?**

A: Yes. KCP&L is proposing to add five new DSM programs: Residential Energy Reports program, Appliance Turn-in program, C&I Prescriptive Rebate program, Multi-family Rebate program, and Residential Lighting and Appliance. The following summary outlines each of the programs.

**Residential Energy Reports Program:**

The Residential Energy Reports program provides residential customers with an Energy Report that provides a comparison of the household energy usage information with similar type customers or "neighbors." The intention of the Energy Report is to provide information that will influence customers' behavior in such a way that they lower their energy usage. This is a behavioral modification program.

1       **Appliance Turn-in Program:**

2       The Appliance Turn-in program is designed to incent residential customers to remove  
3       improperly operating, inefficient, secondary appliances. The secondary purpose is to  
4       raise awareness of the energy benefits of ENERGY STAR® appliances.

5             Older vintage room air conditioners, refrigerators, freezers and humidifiers can be  
6       some of the least efficient electrical appliances in the home. Often these old units are  
7       used when they are not functioning properly and as a result use electricity very  
8       inefficiently. To encourage customers to dispose of their old appliances and purchase  
9       efficient ENERGY STAR® models, KCP&L proposes an appliance turn-in program.  
10      Located at retailer sites during special promotions, participants would receive coupons  
11      towards more efficient units if they turn in an old unit or arrange to have the old unit  
12      picked up. Units received will be recycled through a certified recycling agency.

13      **C&I Prescriptive Rebate Program:**

14      The C&I Prescriptive Rebate program is designed to encourage C&I customers to install  
15      energy efficient measures in existing facilities. More specifically, the program is  
16      designed to:

- 17             • Provide incentives to facility owners and operators for the installation of high  
18             efficiency equipment and controls; and
- 19             • Provide a marketing mechanism for electrical contractors, mechanical  
20             contractors, and their distributors to promote energy efficient equipment to  
21             end users.

22      **Multi-family Rebate Program:**

23      The Multi-family Rebate program advances comprehensive energy efficiency measures,

1 including: whole house solutions, plug load efficiency, visual monitoring displays,  
2 performance standards, local government opportunities and DSM integration.

3 Multi-family property owners and managers have been historically less  
4 responsive to energy efficiency efforts than have residential customers. This unique  
5 customer segment warrants additional attention and effort to motivate property owners  
6 and managers to actively participate in energy efficiency programs. The Multi-family  
7 Rebate program proposes a series of comprehensive measures designed to address  
8 systems within multi-family housing establishments.

9 The Multi-family Rebate program offers prescribed rebates for energy efficient  
10 products to motivate the multi-family property owners/managers to install energy  
11 efficient products in both common and dwelling areas of multi-family complexes and  
12 common areas of mobile home parks and condominiums. An additional objective is to  
13 heighten property owners/managers and tenants awareness and knowledge of energy  
14 efficiency.

#### 15 **Residential Lighting and Appliance Program:**

16 The Residential Lighting and Appliance program promotes ENERGY STAR®  
17 appliances, lighting and home electronics. The program also promotes several products  
18 that are energy efficient, for which there are not yet ENERGY STAR® labels, such as  
19 solid state lighting and light emitting diode technologies. The program uses a two-  
20 pronged approach:

21 (1) increasing supply of qualifying products through partnerships with  
22 retailers, manufacturers and distributors, and

(2) creating demand through consumer awareness and understanding of the ENERGY STAR® label and the benefits of energy efficiency.

**Q: Has KCP&L included information in this filing for each new program tariff as required by the Commission?**

A: Yes, KCP&L has included a proposed tariff, clean and redline versions where appropriate, and program supporting information for each existing and new program. The program supporting information for each proposed new program is attached to my testimony as Schedule ADD-4.

**Q: Is KCP&L proposing any education programs in this filing?**

A: Yes, the following three existing programs should be considered as education programs:

- Building Operator Certification;
- Home Energy Analyzer; and
- Business Energy Analyzer.

**Q: Please summarize the composition of KCP&L's DSM program portfolio following these changes.**

A: The following table updates the one included earlier in my testimony to incorporate the changes I discussed.

<b>KANSAS CITY POWER &amp; LIGHT COMPANY</b> <b>DEMAND-SIDE MANAGEMENT PROGRAM PORTFOLIO</b> (Proposed)		
PROGRAM TYPE	CLASS OF CUSTOMER SERVED	
	Residential	C&I
Demand Response	Energy Optimizer	Energy Optimizer MPower
Energy Efficiency	ENERGY STAR® New Homes Cool Homes Residential Lighting and Appliances Appliance Turn-in Residential Energy Reports Home Performance with ENERGY STAR®	C&I Rebate Program <ul style="list-style-type: none"> <li>▪ Prescriptive Energy Efficiency Measures</li> <li>▪ Custom Energy Efficiency Measures</li> </ul> Multi-family Rebate
Affordability	Low Income Weatherization	
Educational	Home Energy Analyzer	Business Energy Analyzer Building Operator Certification

**Q: How does KCP&L's proposed portfolio of DSM programs meet requirements that all cost effective DSM should be considered a resource, along with traditional supply-side resources, to meet present and future demands?**

A: KCP&L agrees with the Commission that DSM programs should be considered a resource equivalent to traditional supply-side resources for meeting demand growth. In fact, KCP&L introduced its current portfolio of DSM programs as part of its CEP back in 2005 for that very reason. KCP&L's CEP addressed the future needs of its customers through a combination of new generation, renewable resources and DSM programs. KCP&L models its DSM programs as a supply-side resource in its resource planning process. This analysis has repeatedly shown that DSM programs are a cost-effective, long-term resource to meet customer demand.

1   **Q:    What analyses has KCP&L performed to justify its current level of DSM programs?**

2   A:    KCP&L has performed six market assessments for both the residential and commercial  
3       sectors. These assessments are attached to my testimony as Schedule ADD-13.

4   **Q:    What analysis has KCP&L performed to justify its proposed level of DSM**  
5       **programs and to meet demand and energy savings goals, as outlined in MEEIA**  
6       **rules?**

7   A:    KCP&L reviewed the participation and historical performance of all existing DSM  
8       developed and included in KCP&L's CEP. EM&V has been completed for all of these  
9       programs. KCP&L DSM program managers have been tracking participation, program  
10      spending, energy savings in kWh, and demand savings in kW on a monthly basis since  
11      program implementation. KCP&L analyzed the annual energy and demand savings  
12      achieved from these programs and used this information in establishing energy efficiency  
13      and demand savings goals.

14           KCP&L also reviewed the AmerenUE potential study conducted by Global  
15      Energy Partners. This study indentified a suite of programs that were very similar to  
16      KCP&L's existing programs and also identified the potential several new programs. This  
17      study also estimated the realistic achievable potential that might be obtained from these  
18      programs. In addition to the AmerenUE potential study, KCP&L used information from  
19      DSM energy efficiency potential studies that it conducted in the residential, commercial  
20      and multi-family sectors and information from several major program implementers to  
21      estimate the participation in two new proposed programs; the appliance recycling and the  
22      residential reports programs.

1 KCP&L used this information along with KCP&L's actual 2010 program  
2 performance and the level of KCP&L's DSM program management experience to  
3 establish a framework for estimating KCP&L's existing program performance.  
4 KCP&L's goal is a 0.5% annual energy savings, and a 1.0% annual demand savings.

5 **Q: Does KCP&L have plans for any future analysis of its DSM potential?**

6 A: Yes. KCP&L has recently issued a request for proposals from DSM industry analytic  
7 firms to conduct a detailed primary market research potential study.

8 **Q: When does KCP&L expect to have the results of this potential market study?**

9 A: KCP&L currently expects to have the results of this study in late-2012.

10 **Q: How will KCP&L use the results of this potential market study?**

11 A: The Company continually looks to gain industry and customer specific information to  
12 enhance its DSM offerings. KCP&L will further refine its DSM portfolio based on the  
13 results of this study. Each study the Company has conducted, and the reviewing of  
14 regional and national market studies, provides additional insight into the DSM market.

15 **Q: Please describe how KCP&L's portfolio will be used as a resource to moderate bill**  
16 **increases that are likely to be caused as utilities promote DSM programs, build new**  
17 **generation, implement environmental requirements and invest in additional**  
18 **transmission assets.**

19 A: As noted above, KCP&L chose a combination of new generation, renewable resources  
20 and DSM programs when developing its CEP. As KCP&L has been able to successfully  
21 reduce both the energy and demand growth of its customer base as a result of these  
22 programs, the need for future baseload and peaking resources will be mitigated. To the  
23 extent that implementation of these DSM resources is less expensive than traditional

1 supply-side resources, as shown by the initial program benefit-cost analysis and  
2 evaluation of the programs following implementation, then they will serve to moderate  
3 the impact on customer bills from traditional resources over the long-term. As KCP&L  
4 has often stated, it believes that these DSM programs should be considered by the  
5 Commission on a level playing field with traditional generation resources.

6 **Q: How does KCP&L propose to show that its DSM programs produce cost-effective,**  
7 **firm energy savings?**

8 A: DSM programs should be used to achieve both energy and demand growth reductions.  
9 KCP&L currently estimates energy and demand savings on its existing DSM programs  
10 based upon rigorous modeling assumptions. These savings are verified through the  
11 EM&V process with a third-party evaluator two and a half years following the program  
12 tariff approval dates for each program. Once energy and demand savings are verified,  
13 KCP&L re-runs all benefit-cost tests to ensure programs are cost-effective and operating  
14 accordingly. In addition to the periodic EM&V analysis, participation, energy savings,  
15 demand savings, and program spending are reported monthly and compared to budget.

16 **Q: Programs should implement the most cost-effective measures in a logical sequence**  
17 **to maximize the energy savings per dollar spent. How do KCP&L's DSM programs**  
18 **meet this goal?**

19 A: KCP&L's proposed program portfolio offers customers a comprehensive total home or  
20 building solution. Residential customers may elect to take advantage of multiple  
21 programs that, when taken together offer customers multiple choices to implement energy  
22 efficiency which can be taken in combination or individually over time as the customer's  
23 resources allow.



1 For example, the Home Energy Analyzer, the online program, may often be the  
2 first step that a residential customer may take to learn more about energy efficiency. The  
3 Home Energy Analyzer will provide a customer with energy efficient recommendations  
4 for their home based on specific information that a customer provides with respect to type  
5 of appliances, mechanical systems, lighting, windows, insulation, behaviors, etc. The  
6 Analyzer provides energy savings opportunities for the customer to consider, which may  
7 include suggesting that a customer caulk and seal windows in order to minimize air  
8 leakage into and from the home, replace incandescent with CFLs, or replace heating  
9 and/or cooling systems. The Home Energy Analyzer may then direct the customer to  
10 participate in the Energy Optimizer program by installing a programmable thermostat. It  
11 also provides a direct link to the Cool Homes program, which provides information to the  
12 customer on replacing their inefficient air conditioner with a more efficient unit. Thus, in  
13 this example, the Home Energy Analyzer, when utilized in combination with the Cool  
14 Homes and Energy Optimizer programs, offer the customer the opportunity to implement  
15 measures for a total home energy efficiency solution by taking advantage of our existing  
16 programs.

17 **Q: Does KCP&L's portfolio provide programs for all classes of customers?**

18 A: Yes. As shown by the tables earlier in my testimony, KCP&L has sought to provide a  
19 comprehensive portfolio of programs that provides options for all classes of customers,  
20 including low income customers. KCP&L is proposing to continue to offer the Low  
21 Income Weatherization program as part of this filing.

22 **Q: What educational programs are included in KCP&L's portfolio?**

23 A: As discussed earlier in my testimony, KCP&L is proposing to continue to offer the Home

1 Energy Analyzer, Business Energy Analyzer, and Building Operator Certification  
2 programs as part of this filing. These programs are educational in nature and should be  
3 classified as such.

4 The Home and Business Energy Analyzers are online tools designed to educate  
5 residential and commercial customers, respectively, about their energy usage and offer  
6 energy efficiency solutions to lower their bills. In addition to the Home and Business  
7 Energy Analyzers, KCP&L offers paperless billing to all customers. Paperless billing is  
8 accessible to customers through the AccountLink web application on KCP&L's website.  
9 The website is another informational and educational resource. Online billing provides  
10 enhanced monthly billing data such as the cost per unit of energy used, meter readings,  
11 usage comparisons with prior periods dating back to 24 months, and weather effects. The  
12 Home and Business Energy Analyzers provide customers examples of how energy saving  
13 devices can change usage and costs, as well as examples of how changing temperature  
14 settings impact usage and costs.

15 In addition, KCP&L offers the Building Operator Certification ("BOC") program  
16 to its C&I customers. BOC is a national educational program to train facility managers to  
17 more efficiently utilize energy in their facilities.

18 All of these educational programs are designed to increase customer knowledge  
19 regarding both their usage of electricity and available programs to manage that usage.  
20 KCP&L also participates in events where they can provide demand-side management  
21 information to the public. In addition, educational material is provided to customers  
22 through periodic bill inserts and on KCP&L's website.

1 **Q: Has KCP&L implemented EM&V on its programs to determine program**  
2 **effectiveness?**

3 A: Yes. KCP&L has an evaluation process in place for its programs. KCP&L contracts  
4 with a third-party evaluator to perform both process and impact evaluations for its  
5 existing DSM programs. The third-party evaluator is used to avoid conflicts of interest  
6 and to ensure creditability of evaluation results. Evaluations are completed two years and  
7 six months following program tariff approval dates. Evaluation plans are developed by  
8 KCP&L's evaluation contractor(s) and describe all necessary data collection, process  
9 evaluation tasks, and impact evaluation tasks by program.

10 The evaluation plans include study methodology by program, data collection  
11 strategies, data requests by program, and a detailed work plan and schedule. KCP&L  
12 supports the International Performance Measurement and Verification Protocol for all  
13 programs where this standard is applicable.

14 **Q: What is the purpose of KCP&L's process evaluation?**

15 A: KCP&L's goal of the process evaluation component is to confirm program effectiveness,  
16 help improve program design and implementation processes in order to improve their  
17 effectiveness or operational efficiencies. Through the process evaluations, the evaluation  
18 contractor documents program accomplishments, administrative processes, participant  
19 experiences, customer satisfaction and successes, and failures. Process evaluation is  
20 meant to inform the program implementers, provide corrective guidance regarding  
21 program implementation and help to assess whether there is a continuing need for the  
22 programs.

1 **Q: What is the purpose of KCP&L's impact evaluation?**

2 A: KCP&L's goal of impact evaluation is to calculate gross program energy and demand  
3 savings. Gross program impacts are the estimated site level demand and energy savings  
4 caused by the measures installed through the program and do not account for factors such  
5 as free ridership, which may influence attribution of savings to the program. Depending  
6 on the level of rigor demanded, a variety of technical issues can be addressed to  
7 determine gross program impacts, including determination of the pre-installation  
8 technology performance baseline, determining the standard energy efficiency baseline,  
9 verifying that the DSM measures listed for projects were actually installed, developing an  
10 accurate count of the installed measures, determining the demand and energy savings  
11 performance of the DSM measures installed, estimating the load shapes for the DSM  
12 program measures installed through the programs, including the coincidence of each  
13 DSM measure with seasonal and day type peak demand periods, and estimating the long-  
14 term persistence of the program's impacts.

15 Other technical issues associated with determining gross program impacts include  
16 assessing the quality of the data that is available to work with from program files and  
17 databases, and determining what data manipulation systems and supplemental analyses  
18 are required to produce reliable estimates of program impacts.

19 **Q: Have any evaluations been completed on KCP&L's existing programs?**

20 A: Yes. Process and impact evaluations have been completed on all of KCP&L's DSM  
21 programs (with the exception of Home Energy Analyzer and Business Energy Analyzer):

- 22     ▪ MPower;
- 23     ▪ Energy Optimizer (twice);

- 1           ▪ Energy Audit and Energy Savings Measures Rebate Rider;
- 2           ▪ Building Operator Certification;
- 3           ▪ Cool Homes;
- 4           ▪ Low Income Weatherization;
- 5           ▪ Low Income Affordable New Homes;
- 6           ▪ ENERGY STAR® New Homes; and
- 7           ▪ Home Performance with ENERGY STAR®.

8           I have attached the EM&V reports for each of these programs (except the Low  
9           Income Affordable New Homes evaluation as KCP&L is requesting to discontinue this  
10          program) as Schedules ADD-5 through ADD-12.

11   **Q:   What have been the results of the EM&V's performed on KCP&L's programs?**

12   A:   In general, the results have been favorable. As discussed earlier in my testimony,  
13          KCP&L has used the results of the process portion of the evaluation to help improve  
14          program design and implementation processes. KCP&L considers the recommendations  
15          by the third-party evaluator and makes adjustments to program design that it considers to  
16          be appropriate. KCP&L considers all of the process recommendations to be learning  
17          tools to enhance our programs.

18          With respect to the impact evaluation, KCP&L has adjusted its initial assumed  
19          program savings to reflect the results of the EM&V, which is based on an independent  
20          analysis performed by the third-party administrator. In some cases, KCP&L's initial  
21          demand and energy savings assumptions were adjusted upward and in others, they were  
22          adjusted downward. Benefit-cost tests of each EM&V report have been calculated and  
23          are attached to my testimony as the top sheet of each evaluation report marked Schedules

1 ADD-5 through ADD-12.

2 **Q: Did all of the programs that were evaluated pass the Total Resource Cost (“TRC”)**  
3 **test?**

4 A: No. The Low Income Weatherization program, Low Income Affordable New Homes  
5 program, and Home Performance with ENERGY STAR® program had a TRC lower  
6 than one.

7 **Q: Please explain why these programs did not pass the TRC test.**

8 A: The Affordability programs—Low Income Weatherization and Low Income Affordable  
9 New Homes—are structured as social benefit programs to assure that a suitable set of  
10 effective programs are available to this group of customers. Second, the costs to reach  
11 and influence these customers are often higher than they would be to reach other  
12 customers. Cost-effectiveness is not generally a requirement for these types of programs.  
13 The Low Income Affordable New Homes program has seen minimal participation;  
14 therefore, no significant savings were achieved. The Low Income Weatherization  
15 program requires no out-of-pocket expenditures by the participant. The program is  
16 administered by CAP agencies and KCP&L supplements this funding. Therefore,  
17 KCP&L does not claim all of the energy savings of the program, which contributes to the  
18 lower TRC result.

19 **Q: What about the Home Performance with ENERGY STAR® program?**

20 A: Home Performance with ENERGY STAR® was evaluated for program years 2009 and  
21 2010. During those years, it came to our attention that the projects being submitted for  
22 reimbursement were costly compared to KCP&L’s rebate and the measures being  
23 implemented were not always the best energy savings measures. KCP&L instituted

1 program changes to correct these issues by placing caps on certain measures. I believe  
2 these program changes have corrected the issues that led to the program failing the TRC.

3 **Q: Why would savings assumptions need to be adjusted upward or downward?**

4 A: When KCP&L first proposed its DSM portfolio in 2004, we were admittedly on a steep  
5 learning curve. However since then, KCP&L has implemented fourteen DSM programs  
6 and has gained significant experience in program design, implementation, and evaluation  
7 of our programs.

8 When KCP&L proposed its programs, it relied upon external expertise to help  
9 develop the initial estimates of the demand and energy savings for the programs; it can  
10 only be expected that actual results from customer participation in its programs will yield  
11 more accurate estimates. Thus, KCP&L has made adjustments to its programs.

12 **Q: Will there be a true-up mechanism to account for differences in projected verses  
13 actual program kW and kWh?**

14 A: Yes.

15 **Q: Please describe the true-up mechanism.**

16 A: KCP&L established program savings based upon the EM&V report for each program  
17 outlined in Schedule ADD-14. This schedule provides program analysis outlining  
18 estimated participants data and projected benefits by program.

19 At the end of each calendar year, KCP&L will compare the actual results of each  
20 program with the savings goal. Variances to each program will be calculated and the  
21 result either added or subtracted to the annual savings goal for the current year.

22 **Q: How often will this true-up occur?**

23 A: The true-up will occur annually on a calendar basis, and any variances will be determined

by January 31 of the following year.

**Q: What are KCP&L's program plans if the Company does not receive the requested Demand-side Investment Mechanism?**

A: KCP&L plans to reduce its DSM program portfolio offerings if adequate cost recovery is not received.

**Q: Which programs will KCP&L continue in its DSM program portfolio?**

A: The following table outlines the programs for which continuation will be requested:

<b>KCP&amp;L PROPOSED DEMAND-SIDE MANAGEMENT PROGRAM PORTFOLIO</b>	
<b>CLASS OF CUSTOMER SERVED</b>	
<b>Residential</b>	<b>C&amp;I</b>
Energy Optimizer	Energy Optimizer MPower
Home Energy Analyzer	Business Energy Analyzer Building Operator Certification
Low Income Weatherization	

**Q: Is KCP&L proposing any modifications to the DSM programs it wants to continue?**

A: Yes. As stated previously in this testimony, KCP&L is proposing minor modifications to its Energy Optimizer program, MPower program, Building Operator Certification program and Low Income Weatherization program.

**Q: Does that conclude your testimony?**

A: Yes, it does.



**NICOLE A. WEHRY**  
Notary Public - Notary Seal  
State of Missouri  
Commissioned for Jackson County  
My Commission Expires: February 04, 2015  
Commission Number: 11391200