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| Witness: | Kimberly H. Winslow |
| Type of Exhibit: | Direct Testimony |
| Sponsoring Party: | Kansas City Power & Light Company |
| Case No.: | EO-2014-0095 |
| Date Testimony Prepared: | January 7, 2014 |

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO.: EO-2014-0095**

# DIRECT TESTIMONY

**OF**

**KIMBERLY H. WINSLOW**

**ON BEHALF OF**

**KANSAS CITY POWER & LIGHT COMPANY**

**Kansas City, Missouri**
**January 2014**

**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**

**KIMBERLY H. WINSLOW**

**Case No. EO-2014-0095**

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

A: My name is Kimberly H. Winslow. My business address is 1200 Main Street, Kansas City, Missouri 64105.

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

A: I am employed by Kansas City Power & Light Company ("KCP&L" or "Company") as Director, Energy Solutions.

**Q: What are your responsibilities?**

A: My responsibilities include providing leadership and direction to the Customer Solutions, Regulated Products and Services, Economic Development, Business Center and Market Intelligence teams. My responsibilities include initiating and bringing to market new regulated products, as well as improvements and innovations to existing affordability, energy efficiency and demand response products and services, and improving the overall customer experience for our business customers.

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

A: I graduated from Missouri University of Science and Technology with a Bachelor of Science degree in Mechanical Engineering in 1990. In 1994, I graduated from Rockhurst University with a Master of Business Administration. I began my career at Black & Veatch in 1990 as an equipment engineer in its Gas, Oil and Chemicals Division. Within a year, I transferred to Black & Veatch's Management Consulting Division. As a project

manager and consultant, I worked on various projects for electric, gas, water and wastewater municipal and investor owned utilities, ranging in scope from long-term electric and natural gas demand and energy forecasts, cost of service and rate design studies, depreciation studies, valuation studies, and preparation of financial feasibility assessments and Consulting Engineer's Reports for revenue bond sales.

In December 2007, I began my employment with KCP&L as a Senior Energy Consultant working with KCP&L's large industrial customers. In 2009, I assumed the position of Manager of Energy Efficiency. In 2011, I transferred to our Generation Division as a Senior Quantitative Analyst. In September 2013, I assumed the position of Director of Energy Solutions. I am a Professional Engineer in the state of Missouri and a Certified Energy Management professional.

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

A: I have not testified previously before the MPSC, but while I was employed at Black & Veatch, I filed testimony before the Kansas Corporation Commission in Docket No. 07-AQLG-431-RTS.

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

A: The purpose of my testimony includes the following:

(1) Discuss KCP&L's existing portfolio of demand-side management ("DSM") programs;

(2) Discuss KCP&L's proposed portfolio of DSM programs, which includes the addition of four new programs, and the filing of the tariffs for our proposed

portfolio;

(3) Discuss the cost effectiveness of each existing and new program and the evaluation, measurement, and verification process;

(4) Describe how KCP&L's actual DSM savings will be tracked and measured; and

(5) Address how KCP&L's portfolio of DSM programs will be modified if KCP&L does not receive adequate cost recovery from the Commission.

**Q: Do you sponsor any schedules with your Direct Testimony?**

A: Yes, I sponsor the following schedules:

- Schedule KHW-1: Summary of KCP&L Missouri ("KCP&L-MO") Existing Affordability, Energy Efficiency, and Demand Response Programs. This summary compares the budget agreed upon from the Stipulation and Agreement in Case No. EO-2005-0329 ("0329 S&A") and Actual as of September 30, 2013;
- Schedule KHW-2: Program descriptions for each program in our proposed DSM portfolio. It also includes a summary of overall portfolio energy savings, demand savings and program budgets;
- Schedule KHW-3: Tariff sheets for KCP&L's proposed portfolio of programs;
- Schedule KHW-4: Program incentive ranges table by end use measure;
- Schedule KHW-5: *Demand-Side Resource Potential Study, 2014-2033* by Navigant Energy;
- Schedule KHW-6: Program savings by measure based upon Navigant's Demand-Side Resource Potential Study;

## 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 as part of its Comprehensive Energy Plan ("CEP"), 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 14 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. Thirteen of the DSM programs were developed and proposed for approval to the Commission. At that time, this portfolio of programs represented a significant commitment on the part of KCP&L to promote energy efficiency and demand response and to ensure that all classes of customers had programs in which they could participate. This commitment to DSM by a Missouri utility was unprecedented at the time of the 0329 S&A. Since then, Missouri Energy Efficiency Investment Act ("MEEIA") legislation was passed, and both KCP&L Greater Missouri Operations Company ("GMO") and Ameren have filed and received approval for significant programs. Empire District Electric Company recently filed with the Commission for DSM programs under MEEIA, but it has not received approval yet.

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.

| KCP&L<br>DEMAND-SIDE MANAGEMENT PROGRAM PORTFOLIO<br>(Current) | | |
|---|---|---|
| **PROGRAM TYPE** | **CLASS OF CUSTOMER SERVED** | |
| | **Residential** | **C&I** |
| **Demand Response** | Air Conditioning Cycling (Energy Optimizer) | Air Conditioning Cycling (Energy Optimizer)<br>MPower |
| **Energy Efficiency** | ENERGY STAR® New Homes<br>Cool Homes<br>Online Energy Information (Home Energy Analyzer)<br>Home Performance with ENERGY STAR® | Energy Audit and Energy Savings Measure Rider<br>• Energy Audit<br>• Energy Savings Measures – Retrofit and New Construction<br>Online Energy Information (Business Energy Analyzer)<br>Building Operator Certification |
| **Affordability** | Low Income Weatherization<br>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: 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 $29 million for the five-year timeframe.

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

A: As of September 30, 2013, KCP&L had invested over $60 million in these Missouri programs. Schedule KHW-1 presents a summary of the 0329 S&A budget to actual results for each existing DSM program in KCP&L Missouri through September 30, 2013. Programs were implemented at various times after the approval of the S&A and were effective five years from the tariff filing, however, even at the conclusion of the S&A,

KCP&L has continued to offer these programs to its customers. KCP&L has invested $30 million more than what was agreed upon in the S&A.

As you can see from Schedule KHW-1, some of our programs have been very successful compared to the S&A budget, such as Cool Homes and the C&I retrofit program, while others, such as Affordable New Homes, have struggled for various reasons. I will further address the success and struggles of these programs in my testimony.

**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. As of September 30, 2013, KCP&L had installed over 42,000 thermostats under the Energy Optimizer program with approximately 22,000 having been installed in Missouri. This represents 37 MWs of curtailable load with over 19 MWs in Missouri. There were 105 participants in the MPower program as of September 30, 2013 with 58 in Missouri. This represents 47 MW of curtailable load with 35 MW 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 233,000 MWh have been saved through September 30, 2013, of which an estimated 154,000 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, 2013, we had approximately 40,900 Missouri customers using our Home Energy Analyzer program (84,600 total KCP&L customers), 1,381 Missouri customers using our Business Energy Analyzer program (2,367 total KCP&L customers),

9,494 Missouri customers participating in our Cool Homes program (25,674 total KCP&L customers), 2,653 Missouri customers participating in our Home Performance with ENERGY STAR® program (2,653 total KCP&L customers), 1,629 Missouri homes that were built through participation in our ENERGY STAR® New Homes program (3,100 total KCP&L customers), and 174 Missouri participants in our Building Operator Certification program (234 total KCP&L customers). Additionally, KCP&L has provided 1,425 rebates to Missouri customers under the Energy Audit, Energy Saving Measures – Retrofit and Energy Savings Measures – New Construction ("C&I Rebate") program (2,063 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. We have not had participation in this program since December 2009. We are not proposing to renew the Affordable New Homes Program. Its program term ended on January 2, 2014.

**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 2,294 MWh of energy savings as of September 30, 2013, of which an estimated 2,193 MWh come from KCP&L's Missouri customers. Over 864 homes have been weatherized under KCP&L's Low Income Weatherization program Company-wide, with approximately 826 of those homes being in Missouri.

KCP&L's Affordable New Homes program has had nine program participants in Missouri as of September 30, 2013. As I will discuss later in my testimony, this program has not met the expected success in Missouri and KCP&L is not proposing to renew this program as part of this filing.

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

A: The following provides a brief summary of each program within KCP&L's current portfolio.

**DEMAND RESPONSE PROGRAMS**

**Energy Optimizer:** The Energy Optimizer program is an air conditioning cycling program by which KCP&L can reduce residential and small commercial air conditioning load during peak summer days. This load reduction is achieved by sending a paging signal (one-way communication) to a control device in a thermostat attached to the customer's air conditioner. The control device then turns the air conditioner off and on, or ramps up the temperature over a period of time, depending on the load reduction strategy established by KCP&L. Beginning in 2014, KCP&L will be testing the implementation of new Wi-Fi smart thermostats (two-way communication) so that we begin to evaluate the potential of smart thermostats.

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

## ENERGY EFFICIENCY PROGRAMS

**Home Energy Analyzer:** The Home Energy Analyzer is an on-line tool that provides information to customers on how they use energy based on their specific usage data. It also provides information on ways customers can save energy and what their payback might be based upon the improvements made.

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

**Home Performance with ENERGY STAR®:** Home Performance with ENERGY STAR® is a national program from the U.S. Environmental Protection Agency and U.S. Department of Energy. It is an innovative program that strives to produce an economically sustainable model that captures significant energy savings by encouraging a whole-house approach to energy efficiency improvements in existing homes. The program begins with a whole-house energy assessment performed by Building Performance Institute ("BPI") trained and certified contractors or consultants. The infrastructure is then provided for homeowners to follow through and complete energy

improvements to their homes. KCP&L markets this program with Missouri Gas Energy ("MGE") for those customers that are served by both utilities.

I will address later in my testimony KCP&L's proposal to significantly change this program.

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

I will address later in my testimony KCP&L's proposal to discontinue the ENERGY STAR® New Homes program.

**Building Operator Certification:** Building Operator Certification is a market transformation effort to train facility operators in efficient building operations and

management, establish recognition of and value for certified operators, support the adoption of resource-efficient O&M as the standard in building operations and create a self-sustaining entity for administering and marketing the training.

**Business Energy Analyzer:** The Business Energy Analyzer is an on-line tool that provides information to business customers on how they use energy based on their specific usage data. It provides information on ways they can save energy and what their payback might be based on the improvements made. It also allows businesses to benchmark themselves against like businesses.

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

Within the retrofit and new construction components of the Energy Audit and Energy Saving Measures Rebate Rider, a small general service customer may also apply

for rebates from a standard or prescriptive list of energy-efficiency measures. These measures include lighting, lighting controls, air conditioning and motors.

I will address later in my testimony, KCP&L's proposal to significantly change this program.

**AFFORDABILITY PROGRAMS**

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

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

**Low Income Affordable New Homes:** The Low Income Affordable New Homes program is designed to be a partnership between KCP&L and organizations to achieve energy efficient affordable new housing for the low income community. Financial incentives are available at the full incremental cost for high efficiency central air conditioners and heat pumps. An incentive is available toward the purchase of an ENERGY STAR® rated refrigerator, toward the purchase of ENERGY STAR® rated

lighting fixtures, and toward installing higher than standard levels of insulation in the attic, floor, or crawlspace.

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

## PROPOSED PORTFOLIO CHANGES

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

A: KCP&L is requesting four types of changes to its existing DSM portfolio of programs: (1) discontinuance of two programs, (2) renaming of several existing programs, (3) design modification of several existing programs, and (4) the addition of four new programs.

**Q: What program(s) are KCP&L proposing to discontinue or renew?**

A: As mentioned earlier in my testimony, KCP&L is proposing to discontinue its ENERGY STAR® New Homes tariff and it will not renew the Low Income Affordable New Homes tariff, which ended January 2, 2014.

**Q: Why is KCP&L proposing not to renew 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 continued 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: Why is KCP&L proposing to discontinue the ENERGY STAR® New Homes program?**

A: Utilizing data from the Navigant potential study (Schedule KHW-5), we have found that the ENERGY STAR® New Homes program does not pass the total resource cost ("TRC") benefit/cost test in years 2014-2017. The driving factors are the low avoided costs in years 2014-2017 and the high cost to implement and/or qualify. The U.S. Environmental Protection Agency ("EPA")/Department of Energy ("DOE") has raised the bar on qualification standards to Version 3, which has increased the total cost to qualify. This has negatively impacted the program. Therefore, we are not recommending continuance of this program.

**Q: Why is KCP&L proposing to rename several of its existing program tariffs?**

A: KCP&L is utilizing a branded house approach to naming and branding these customer programs. The branded house is a unified, self-explanatory approach to product naming. It emphasizes the benefits customers will receive and leverages the established KCP&L brand customers recognize. This approach was selected because it is more cost effective to market a unified, cohesive portfolio of products than marketing a collection of disparate product names that don't readily identify what the programs are and what benefit they provide to customers.

I have summarized our proposed name changes in the table below.

| RESIDENTIAL | |
|---|---|
| Current | Proposed |
| Cool Homes | Air Conditioning Upgrade Rebate |
| Home Performance with ENERGY STAR® | Home Energy Improvements |
| Low Income Weatherization | Income-Eligible Weatherization |
| Optimizer | Programmable Thermostat |
| **COMMERCIAL** | |
| Energy Audit and Energy Savings Measure Rider | Business Energy Efficiency Rebates – Custom<br>Business Energy Efficiency Rebates - Standard |
| Optimizer | Programmable Thermostat |
| MPower | Demand Response Incentive |

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

A: KCP&L is proposing program design modifications to its MPower program, Energy Audit and Energy Savings Measures Rebate Rider, and Home Performance with ENERGY STAR® program.

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

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

- **MPower Program**
  - Rename program to Demand Response Incentive.
  - Delete Energy Purchase Option. This option has not been used by

customers.

- Delete Curtailment Excess of Customer Load section. Payments made under this provision are negligible. The deletion of this provision is expected to reduce customer confusion and increase efficiency in program administration.

- **Energy Audit and Energy Savings Measures Rebate Rider (Retrofit and New Construction)**
  - Rename program to Business Energy Efficiency Rebates - Custom. This tariff allows for both retrofit and new construction projects. We are also proposing a prescriptive program, Business Energy Efficiency Rebates – Standard, which will be discussed later in my testimony. The Custom program provides rebates for energy saving improvements not specifically covered under the Business Energy Efficiency Rebates – Standard program.
  - Eliminate the rebate for a completed audit. This portion of the program has not been successful and has had only one participant.
  - Increase annual customer maximum rebate levels for the combined proposed Standard and Customer Business Energy Efficiency Rebates programs, such that the maximum is limited to $250,000 per customer per program year, or up to two times the projected demand side investment mechanism ("DSIM") charge of the customer if it is greater than $125,000. 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.

- **Home Performance with ENERGY STAR®**
  - Rename program to Home Energy Improvements.
  - The overall purpose of the program will remain to encourage improvements to existing homes through a walk through home audit and installation of energy efficiency measures. While, this program currently requires customers to complete a comprehensive, Building Performance Institute ("BPI") energy audit from a certified auditor/contractor, our proposed program is based on a simpler, lower cost audit. A list of qualifying measures will be provided to contractors for installation. Measures include faucet aerators, low-flow showerheads, and air sealing. KCP&L will continue to engage the existing contractor network to implement the program. While the program coordination with MGE may change since the programs will be different, marketing and contractor interaction opportunities will remain.

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

A: Yes. KCP&L is proposing to add four new DSM programs: Business Energy Efficiency Rebates – Standard, Home Energy Report Pilot, Home Appliance Recycling Rebate, and Home Lighting Rebate. The following summary outlines each of the new programs.

**Business Energy Efficiency Rebates – Standard**

The Business Energy Efficiency Rebates – Standard program is designed to complement the Business Energy Efficiency Rebates – Custom program. As mentioned earlier in my testimony, this is a prescriptive program and is designed to encourage C&I and

multifamily customers to install energy efficient measures in existing facilities. Rebates will be fixed per eligible energy efficiency measure. More specifically, the program is designed to:

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

Measure categories include lighting and controls; motors; pumps; variable frequency drives; heating, ventilation and air conditioning; ENERGY STAR® equipment; business computing; and food service and refrigeration.

**Home Energy Report Pilot**

The Home Energy Report Pilot program is a behavioral modification program. 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. The program provides residential customers with an energy report that provides a comparison of the household energy usage information with similar type customers or "neighbors" for the past 12 months, a personal comparison of this year's usage versus last year and specific energy tips that are based on the characteristics and usage of the household.

**Home Appliance Recycling Rebate**

The Home Appliance Recycling Rebate program is designed to incent residential customers to remove improperly operating, inefficient, secondary appliances. Often these old units are used when they are not functioning properly and as a result use

electricity very inefficiently. The secondary purpose is to raise awareness of the energy benefits of ENERGY STAR® appliances.

To encourage customers to dispose of their old appliances and purchase efficient ENERGY STAR® models, we propose a home appliance recycling rebate program. The program will target residential customers who are currently operating secondary refrigerators and freezers. Units received will be recycled through a certified recycling agency.

**Home Lighting Rebate Program**

The Home Lighting Rebate Program promotes ENERGY STAR® lighting. The program also promotes several products that are energy efficient, for which there are not yet ENERGY STAR® labels, such as solid state lighting and light emitting diode technologies. The program uses a two-pronged approach:

(1) increasing supply of qualifying products through partnerships with 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: 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 proposed DSM program portfolio following the name changes, modifications and new programs that you have discussed.**

A: The following table updates the one included earlier in my testimony to incorporate the changes, modifications and new programs.

| KANSAS CITY POWER & LIGHT COMPANY<br>DEMAND-SIDE MANAGEMENT PROGRAM PORTFOLIO<br>(Proposed) | | |
|---|---|---|
| **PROGRAM TYPE** | **CLASS OF CUSTOMER SERVED** | |
| | **Residential** | **C&I** |
| **Demand Response** | Programmable Thermostat | Programmable Thermostat<br>Demand Response Incentive |
| **Energy Efficiency** | Air Conditioning Upgrade Rebate<br>Home Lighting Rebate<br>Home Appliance Recycling Rebate<br>Home Energy Report Pilot<br>Home Energy Improvements | Business Energy Efficiency Rebates - Custom<br>Business Energy Efficiency Rebates - Standard |
| **Affordability** | Income-Eligible Weatherization | |
| **Educational** | Home Energy Analyzer | Business Energy Analyzer<br>Building Operator Certification |

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

A: Yes, KCP&L has included program supporting information for each program tariff. Schedule KHW-2 includes program descriptions for each program in our proposed DSM portfolio.

**Q: What is the proposed budget for each program and the energy and demand savings calculated for your proposed portfolio?**

A: This summary is included in Schedule KHW-2. The total proposed budget for our DSM portfolio for the proposed plan period is $28,586,875, total annual incremental energy savings of 155,598 MWh, and total annual incremental demand savings of 153 MW.

**Q: Have you included tariffs, as required by the Commission, for each of your existing programs that reflect the modifications that you address herein as well as the new programs?**

A: Yes. Tariff sheets for 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 KHW-3.

**Q: Did you establish specific incentive levels in your tariffs?**

A: No. As shown in Schedule KHW-4, in order to maintain flexibility as the marketplace changes, we have provided a range of incentive levels for each measure. The top end of the range presented is based on Navigant's potential study incentive findings or current GMO incentive offerings for similar program measures. The bottom end of the range is based on nominal percent of total cost or initial incentive. The incentive level does not impact the TRC, so the program is still cost effective across the range.

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

A: KCP&L engaged Navigant Energy to perform a market potential study in January 2012. This completed study, *Demand-Side Resource Potential Study, 2014-2033*, is attached to my testimony as Schedule KHW-5. The objectives of this potential study were to:

- Develop an accurate baseline to facilitate estimation of savings potential going forward

- Estimate electric efficiency and demand response potential from 2014-2033 for both KCP&L and KCP&L-GMO
- Satisfy the requirements of MO 4 CSR 240-3.164 regarding rules for conducting a potential study
- Develop savings/cost estimates for input to KCP&L/GMO Integrated Resource Plans ("IRP")
- Develop a set of DSM programs with the ultimate goal of achieving all cost-effective demand-side savings
- Impact of energy and peak coincident demand
- Conduct benefit-cost analyses of DSM measures and programs

In the process of meeting the above objectives, the Navigant potential study also meets all of the requirements of MO 4 CSR 204-3.164 (2) A 1-4 including items such as assumptions, definitions and methodologies, among many others.

In addition, KCP&L reviewed the participation and historical performance of all existing DSM programs developed and included in KCP&L's CEP. Evaluation Measurement & Verification ("EM&V") has been completed for all of these programs. KCP&L DSM program managers have been tracking participation, program spending, energy savings in kWh, and demand savings in kW on a monthly basis since program implementation. KCP&L analyzed the annual energy and demand savings achieved from these programs and used this information in establishing energy efficiency and demand savings goals.

Using the potential study for market and customer types, consideration of KCP&L's program performance from inception, KCP&L's DSM program management experience, and a balance of matching existing programs in KCP&L-MO and GMO for marketing, we established a framework for designing KCP&L-MO's proposed programs.

We have determined that our proposed DSM portfolio will result in a 0.89% and 0.98% annual incremental energy savings for 2014 and 2015, respectively, and a 3.2% and 3.2%, respectively annual incremental demand savings.

**Q: Is KCP&L pursuing realistic achievable potential (RAP) levels as identified in the potential study?**

A: Based on our proposed plan period of 20 months, we will be pursuing 108 percent of total annual incremental RAP in kWh and 82 percent in kW. The table below presents this calculation.

| | 2014 | 2015 | TOTAL (OF ANNUAL INCREMENTAL) | TOTAL PLAN PERIOD (20 MONTHS) |
|---|---|---|---|---|
| **kWh** | | | | |
| **Proposed Filing** | 73,886,046 | 81,711,708 | 155,597,754 | 155,597,754 |
| **KCPL-MO RAP** | 83,217,000 | 92,038,000 | 172,255,000 | 144,575,667 |
| **% of Total** | 88.8% | 88.8% | 88.8% | 107.6% |
| **kW** | | | | |
| **Proposed Filing** | 75,497 | 77,091 | 152,588 | 152,588 |
| **KCPL-MO RAP** | 97,000 | 132,000 | 229,000 | 185,000 |
| **% of Total** | 77.8% | 58.4% | 66.6% | 82.5% |

**Q: Were there programs that were recommended in Navigant's potential study that KCP&L did not include in this filing?**

A: Yes, there were seven programs that KCP&L did not include. These include: Business Behavior Based Demand Side Rate, Combined Heat and Power, Small Business Direct Install, Small/Medium Business Curtailable Load, Energy Education, ENERGY STAR® New Homes, and Residential Time of Use Pricing.

**Q: Why were these programs not included in this filing?**

A: Earlier in my testimony, I specifically discussed why we did not include ENERGY STAR® New Homes as a returning program to our portfolio. We chose not to include the

balance of the programs for several reasons, depending on the program. In general, the overall savings that would be realized from some of the programs were so small in comparison relative to our proposed programs that we did not want to incur additional marketing expense, or significantly deviate from programs that we were currently offering in our GMO service territory.

**Q: Is your proposed KCP&L-MO DSM portfolio similar to your DSM portfolio in KCP&L-GMO?**

A: Yes, the portfolios between the two jurisdictions are similar, but there are differences. The DSM portfolio for KCP&L-GMO includes the Residential Lighting and Appliance and the Multifamily Rebate programs. We have not included those two programs in our proposed DSM portfolio for KCP&L-MO. In addition, as discussed earlier, we are proposing to dramatically modify the Home Performance with ENERGY STAR® program such that it is a direct install program with a scaled back home audit.

**Q: Can you further explain why these programs were not included or modified?**

A: Yes. When we filed the MEEIA programs for KCP&L-GMO, we had not completed a market potential study specific to KCP&L's GMO territory. GMO programs were designed using historical experience, EM&V's that had been completed for the programs, and review of AmerenUE's potential study conducted by Global Energy Partners ("GEP"). In addition to the AmerenUE potential study, GMO used information from DSM energy efficiency potential studies that it conducted in the residential, commercial and multi-family sectors and information from several major program implementers to estimate the participation in two new proposed programs; the appliance recycling and the residential energy reports programs. Specified measures within a program were not

modeled.

When Navigant completed its potential study in August 2013, we were able to design our programs using a bottom's up approach and have an end use measure library to rely upon. By using this preferred approach, we found that some of our programs did not pass the TRC test[1] as specifically designed in GMO, such as the Residential Lighting and Appliance and Home Performance with ENERGY STAR® programs. We anticipate relying on the results of Navigant's potential study, as well as what we learn through EM&V, to determine any program modifications that may be appropriate for future GMO MEEIA filings.

With respect to the Residential Lighting and Appliance program, by designing the program identical to GMO and including the refrigerator and the freezer measures, the program did not pass the TRC. In its design of that program, Navigant attributed the majority of energy savings to lighting (80 percent). Therefore, to emphasize the huge opportunity for energy savings for lighting and provide focus and clarity to the customer, we are proposing to emphasize residential lighting as a stand-alone program (Home Lighting Rebate program).

Similarly, we are splitting the potential identified in the Navigant potential study for the Multifamily Rebate program into two proposed programs – Home Lighting Rebate and Business Energy Efficiency Rebates – Standard. Again, we feel that residential customers will be able to better take advantage of any lighting rebates through a stand-alone program. Any common area lighting retrofit that is provided for by the

[1] Total resource cost test (TRC) is defined in 4 CSR 240-20.093 (1) AA as the test of the cost-effectiveness of demand-side programs that compares the avoided utility costs to the sum of all incremental costs of end-use measures that are implemented due to the program (including both utility and participant contributions), plus utility costs to administer, deliver, and evaluate each demand-side program.

(commercial) property owner can be pursued through the Business Energy Efficiency Rebates – Standard program.

With respect to the Home Performance with ENERGY STAR® program, the program did not pass the TRC when designed in the same manner as GMO. The cost of measures is high relative to the energy savings realized and the cost of the Building Performance Institute audit is high. Therefore, we are recommending that this program (Home Energy Improvements) be designed as a direct install program with lower first cost of measures. While we are proposing a major program design modification, we will continue to keep the auditor network engaged, lower the cost of participation to customers, and still achieve significant energy savings.

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

A: As noted above, KCP&L chose a combination of new generation, renewable resources and DSM programs when developing its CEP. As KCP&L has been able to successfully reduce both the energy and demand growth of its customer base as a result of these programs, the need for future baseload and peaking resources will be mitigated. To the extent that implementation of these DSM resources is less expensive than traditional supply-side resources, as shown by the initial program benefit-cost analysis and evaluation of the programs following implementation, then they will serve to moderate the impact on customer bills from traditional resources over the long-term. As KCP&L has often stated, it believes that these DSM programs should be considered by the

Commission on a level playing field with traditional generation resources.

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

A: DSM programs should be used to achieve both energy and demand growth reductions. KCP&L currently estimates energy and demand savings on its existing DSM programs based upon rigorous modeling assumptions. These savings will be verified through the EM&V process with a third-party evaluator at the end of our plan period. Once energy and demand savings are verified, KCP&L re-runs all benefit-cost tests to ensure programs are cost-effective and operating accordingly. In addition to the periodic EM&V analysis, participation, energy savings, demand savings, and program spending are reported monthly and compared to budget.

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

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

For example, the Home Energy Analyzer, the online program, may often be the first step that a residential customer may take to learn more about energy efficiency. The Home Energy Analyzer will provide a customer with energy efficient recommendations for their home based on specific information that a customer provides with respect to type

of appliances, mechanical systems, lighting, windows, insulation, behaviors, etc. The Analyzer provides energy savings opportunities for the customer to consider, which may include suggesting that a customer caulk and seal windows in order to minimize air leakage into and from the home, replace incandescent with CFLs, or replace heating and/or cooling systems. The Home Energy Analyzer may then direct the customer to participate in the Programmable Thermostat program. It also provides a direct link to the Air Conditioning Upgrade program, which provides information to the customer on replacing their inefficient air conditioner with a more efficient unit. Thus, in this example, the Home Energy Analyzer, when utilized in combination with the Programmable Thermostat and Air Conditioning Upgrade programs, offer the customer the opportunity to implement measures for a total home energy efficiency solution by taking advantage of our portfolio of programs.

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

A: Yes. As shown by the tables earlier in my testimony, KCP&L has sought to provide a comprehensive portfolio of programs that provides options for all classes of customers, including low income customers. In addition, we are providing for educational classes such as the online tools, Home and Business Energy Analyzers, which are designed to educate residential and commercial customers, respectively, about their energy usage and offer energy efficiency solutions to lower their bills and manage usage.

## EVALUATION, MEASUREMENT AND VERIFICATION

**Q: Will the Company hire an independent contractor to perform and report EM&V of each Commission-approved demand-side program in accordance with 4 CSR 240-20.094 to determine program effectiveness?**

A: Yes. KCP&L will have an evaluation process in place for its programs. KCP&L will contract with a third-party evaluator to perform both process and impact evaluations for the proposed DSM programs. A third-party evaluator is used to avoid conflicts of interest and to ensure creditability of evaluation results. KCP&L intends to have an independent EM&V evaluation performed for each program at the end of the plan period. The results of the EM&V will be used to solidify the success of each program, help in directing any changes that need to be made and provide results to be used in the recovery mechanism in determining if we have achieved our performance targets, which will be the driving factor for recovery of a performance incentive. Evaluation plans will be developed by KCP&L's evaluation contractor(s) and will describe all necessary data collection, process evaluation tasks, and impact evaluation tasks by program.

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

**Q: What is the purpose of a process evaluation?**

A: The goal of the process evaluation component is to confirm program effectiveness, help improve program design and implementation processes in order to improve their effectiveness or operational efficiencies. Through the process evaluations, the evaluation

contractor documents program accomplishments, administrative processes, participant experiences, customer satisfaction and successes, and failures. Process evaluation is meant to inform the program implementers, provide corrective guidance regarding program implementation and help to assess whether there is a continuing need for the programs.

**Q: What is the purpose of the impact evaluation?**

A: The goal of impact evaluation is to calculate gross program energy and demand savings. As mentioned earlier, it will provide results to be used in the recovery mechanism in determining if we have achieved our performance targets.

Gross program impacts are the estimated site level demand and energy savings caused by the measures installed through the program and do not account for factors such as free ridership, which may influence attribution of savings to the program. Depending on the level of rigor demanded, a variety of technical issues can be addressed to determine gross program impacts, including determination of the pre-installation technology performance baseline, determining the standard energy efficiency baseline, verifying that the DSM measures listed for projects were actually installed, developing an accurate count of the installed measures, determining the demand and energy savings performance of the DSM measures installed, estimating the load shapes for the DSM program measures installed through the programs, including the coincidence of each DSM measure with seasonal and day type peak demand periods, and estimating the long-term persistence of the program's impacts.

Other technical issues associated with determining gross program impacts include assessing the quality of the data that is available to work with from program files and

databases, and determining what data manipulation systems and supplemental analyses are required to produce reliable estimates of program impacts.

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

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

- MPower;
- Energy Optimizer (twice);
- Energy Audit and Energy Savings Measures Rebate Rider;
- Building Operator Certification;
- Cool Homes;
- Low Income Weatherization;
- Low Income Affordable New Homes;
- ENERGY STAR® New Homes; and
- Home Performance with ENERGY STAR®.

These EM&V reports were included for each of these programs (except the Low Income Affordable New Homes evaluation as KCP&L is requesting to discontinue this program) as Schedules ADD-5 through ADD-12 in Docket No. EO-2012-0008. The last EM&V was completed in 2010.

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

A: In general, the results have been favorable. Benefit-cost tests of each EM&V report were calculated and are attached to Schedules ADD-5 through ADD-12 in Docket No. EO-2012-0008.

As discussed earlier in my testimony, KCP&L has used the results of the process portion of the evaluation to help improve program design and implementation processes. KCP&L considers the recommendations by the third-party evaluator and makes adjustments to program design that it considers to be appropriate. KCP&L considers all of the process recommendations to be learning tools to enhance our programs.

Because we now have a resource potential study, we have utilized the deemed savings from the potential study at the measure level rather than using the results of the impact evaluation to develop our energy savings for each of the programs. As per Navigant's guidance, the energy and demand savings potential for end-use measures included in a recommended program was used. This data is listed in the potential study Appendix L, "Appendix L -- Detailed Potential Output R5.xlsm".

The savings per measure (kWh) is determined by:

> Savings per measure (kWh) = For each year, the end-use measure potential (MWh) listed in Appendix L is multiplied by 1,000 (to convert MWh to kWh) which is then divided by the per unit potential quantity of the measure. Also included in Appendix L is the definition of the quantity type.
>
> For example, installing an occupancy sensor to control lighting is listed as the first measure in the commercial and industrial (C&I) prescriptive rebate program. This measure is listed as "C&I_Controls - No Occ Sensors_Controls - Occupancy Sensors" in Appendix L.

The potential for this measure in year 2014 in KCP&L-MO is listed as 877.798713 MWH, the unit is listed as "per connected watt", and the quantity is listed as 549,289.066 (connected watts).

The potential energy savings is 877.798713 MWH x 1,000 = 877,798.713 kWh. Dividing this by the potential quantity 549,289.066 = 1.598 kWh potential savings per connected watt. Thus an occupancy sensor with 300 connected watts of load could save 1.598 kWh x 300 = 479.4 kWh per year. The deemed energy savings for this measure is 1.598 kWH per connected watt.

Another example is the replacement of an exit sign that uses incandescent lamps with an exit sign that uses light emitting diodes (LED). This measure is included in the C&I standard rebate program and is listed as "Exit Sign - Incandescent_Exit Sign – LED" in Appendix L. The potential for this measure in year 2014 in KCP&L-MO is listed as 50.17 MWH, the unit is listed as "per fixture", and the quantity is listed as 151.252453 (fixtures). The potential energy savings is 50.169990 MWH x 1,000 = 50,169.990 kWh. Dividing this by the potential quantity of fixtures (151.252453) = 331.697 kWh potential savings per fixture. The results of these calculations for each measure are in Schedule KHW-6.

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

A: Yes, with the exception of the Low Income Weatherization program. Each program's benefit-cost analysis is included in Schedule KHW-2.

**Q: Will there be a true-up process to account for differences in projected versus actual program kW and kWh?**

A: Yes. Program savings will be calculated for most programs at the measure level according to Schedule KHW-6. These figures were provided by Navigant. A few programs will be calculated at the premise level based on average participants and due to the wide variety of participant types for the program.

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

**Q: How will actual performance be tracked for each of the programs and metrics?**

A: Program costs will be based on actual invoices and rebates paid to customers and will be reported per the determined stipulation and agreement for this filing but tracked in an ongoing basis. Net Shared Benefit – Throughput Disincentive will be calculated in the same frequency and will be based on the actual participation and deemed savings. The program deemed savings were provided by Navigant in the potential study and are summarized in Schedule KHW-6 by measure or by participant depending on program.

For the Performance Incentive, Evaluation, Measurement and Verification (EM&V), we will provide a comparison of the actual energy and demand savings (kWh and kW, respectively) calculated compared to the savings deemed by Navigant in the potential study. The EM&V results will be the guiding values to determine the level of KCP&L-MO performance compared to bonus targets.

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

A: The true-up will occur annually on a calendar basis.

**Q: Please describe the DSIM Tracker that KCP&L is proposing?**

A: The DSIM Tracker consists of program costs and a portion of the net shared benefits. The DSIM Tracker allows for recovery of all program costs and a portion of the net shared benefits based on the level of program performance. Company witness Tim Rush describes our proposed DSIM Tracker in his testimony.

**Q: What are KCP&L's program plans if the Company does not receive the requested DSIM?**

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. We will request that the programs be modified as I describe earlier in my testimony, as applicable.

| KCP&L<br>PROPOSED REDUCED DEMAND-SIDE MANAGEMENT PROGRAM PORTFOLIO | |
|---|---|
| CLASS OF CUSTOMER SERVED | |
| **Residential** | **C&I** |
| Programmable Thermostat | Programmable Thermostat<br>Demand Response Initiative |
| Home Energy Analyzer | Business Energy Analyzer<br>Building Operator Certification |
| Income-Eligible Weatherization | |

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

A: Yes, it does.

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

| | | |
|---|---|---|
| In the Matter of Kansas City Power & Light Company's Application for Approval of Demand-Side Programs and for Authority to Establish A Demand-Side Programs Investment Mechanism | ) ) ) ) | File No. EO-2014-0095 |

**AFFIDAVIT OF KIMBERLY H. WINSLOW**

**STATE OF MISSOURI** )
) **ss**
**COUNTY OF JACKSON** )

Kimberly H. Winslow, being first duly sworn on her oath, states:

1. My name is Kimberly H. Winslow. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Director, Energy Solutions.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Kansas City Power & Light Company consisting of Thirty-five (35) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Kimberly H. Winslow
Kimberly H. Winslow

Subscribed and sworn before me this 7th day of January, 2014.

Nicole A. Wehry
Notary Public

My commission expires: Feb. 4, 2015

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