PPL companies

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December 30, 2014

RE: ***Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Review, Modification, and Continuation of Existing, and Addition of New Demand-Side Management and Energy-Efficiency Programs* – Case No. 2011-00134**

Dear Mr. DeRouen:

Pursuant to the Commission's Order of November 9, 2011, in the above-referenced proceeding, Ordering Paragraph No. 5, Louisville Gas and Electric Company and Kentucky Utilities Company's (collectively "the Companies") submit a three-year analysis report of the five enhanced programs and the three new programs approved in this proceeding.

If you have any questions regarding the enclosed, please do not hesitate to contact me.

Sincerely,

Rick E. Lovekamp

Rick E. Lovekamp

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF LOUISVILLE GAS AND	)	
ELECTRIC COMPANY AND KENTUCKY	)	
UTILITEIS COMPANY FOR REVIEW,	)	**CASE NO.**
MODIFICATION AND CONTINUATION OF	)	**2011-00134**
EXISTING, AND ADDITION OF NEW	)	
DEMAND-SIDE MANAGEMENT AND	)	
ENERGY EFFCIENCY PROGRAMS	)	

Enhanced and New Demand-Side Management / Energy Efficiency Programming Three - Year Interim Analysis

December 30, 2014

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2014 Interim Analysis

As required in Case No. 2011-00134 the Companies submit the following three-year analysis.[1] This report summarizes performance and effectiveness of the approved enhanced and new Demand-Side Management/Energy Efficiency ("DSM/EE") programming in Case No. 2011-00134. The enhanced DSM/EE programs described in this report are: (1) Residential and Commercial Load Management/Demand Conservation Program; (2) Commercial Conservation/Commercial Incentive Program; (3) Residential Conservation/Home Energy Performance Program; (4) Residential Low Income Weatherization Program (WeCare); and (5) Program Development and Administration Program. The new DSM/EE programs described in this report are (1) Residential Refrigerator Removal Program; (2) Smart Energy Profile Program; and (3) Residential Incentives Program.

The Companies present an individual program overview for the enhanced and new DSM/EE programming in Case No. 2011-00134 which includes Total Resource Cost ("TRC") scores, participants, energy and demand savings, as well as financials for each program referenced above. The Companies DSM/EE programs are designed using the best information available at the time of development and submission to the Commission for approval. As programmatic marketing and educational efforts are deployed and actual customers choose to participate in programming, the Companies expect to experience variances in program participation, costs and TRC scores.

The Companies have a commitment to ongoing program assessment to ensure performance, effectiveness and prudency in the use of customers' dollars. If the Companies' analyses reveal any program is underperforming, the Companies will evaluate the problems and identify possible solutions. The Companies will notify the Commission and discontinue the program if the underperformance cannot reasonably be corrected.

[1] Pursuant to Ordering Paragraph No. 5 of the Commission's Order of November 9, 2011, in Case No. 2011-00134, Louisville Gas and Electric Company ("LG&E") and Kentucky Utilities Company ("KU") (collectively "the Companies") are required to file an interim three-year analysis of the five enhanced programs and three new programs approved in 2011 in order to evaluate program performance and effectiveness.

Enhanced DSM/EE Programs

Program Name: Residential and Commercial Load Management/Demand Conservation
The Residential and Commercial Load Management/Demand Conservation Program is a voluntary program that supports the Companies by reducing peak demand when energy consumption is at its highest. In operation since 2001, the program utilizes one-way communicating switches to cycle central air conditioning systems, heat pumps, electric water heaters, and/or pool pumps in residential and small commercial properties.

In 2011, the Companies submitted an application for modification to the Residential and Commercial Load Management/Demand Conservation Program as a result of a market saturation rate of approximately 20%. To address the market saturation goals, the Companies sought and received approval for: (1) the addition of another full time equivalent (FTE) to assist in outreach efforts to the multi-family and commercial customer segment; (2) the ability to modify and increase the financial incentives to attract those customers who have not been interested to date; (3) capitalization of newly installed load-control switches and programmable thermostats; and (4) the extension of the Residential and Commercial Load Management / Demand Conservation Program through 2018.

The Companies have successfully implemented all of the approved program modifications. Most importantly, with the approved ability to modify the financial incentive structure, the Companies have implemented an enhanced marketing effort for new customer program registrations. This effort provides new registrants with an additional customer incentive in the form of a $25 gift card per switch installed. While high saturation levels and the voluntary nature of the Residential Load Management program has created challenges in the past, the approved flexibility for the Companies to modify incentives for customers has allowed the Companies to maintain customer participation goals.

The tables below demonstrate program installations by device type, property type as well as device removals for years 2012 to 2014.

Demand Conservation - Device Installations by Type

	2012	2013	2014	Total
AC/HP	13,417	16,992	16,023	46,432
Water Heater	1,493	842	357	2,692

Demand Conservation - Device Installations by Property Class

	2012	2013	2014	Total
Single Family	13,088	15,198	13,004	41,290
Multi-Family	1,291	2,555	3,338	7,184
Commercial	531	81	38	650

Demand Conservation - Device Removals by Year

2012	2013	2014	Total
331	1,091	1,054	2,476

In 2012, the Companies launched a large commercial load management pilot through the existing approved Commercial Load Management / Demand Conservation Program budget, with the goal of evaluating available control technologies and customer interest. The small-scale pilot included eighteen (18) large commercial customers representing over eighty-four (84) sites across the Companies' service territories. The diversity of the sites participating includes, but is not limited to, retail, education, utility, local government, and distribution facilities. These enrolled sites yielded nearly 10MW of demand reduction during the 2013 load control season. The large commercial program currently uses two-way communicating switching devices to cycle customer equipment during load control events. Two-way devices provide near real time visibility into a customers' energy consumption, which is monitored by the Companies and customers through web-based software.

With the demonstrated success of the large commercial technologies, the Companies sought and gained Commission approval to enhance the Commercial Load Management / Demand Conservation Program in Case No. 2014-00003. The Companies received approval to: (1) move the large commercial load management pilot to a full commercial deployment; and (2) modify financial incentives to encourage customers to participate in this voluntary program.

Program Performance

The tables below demonstrate actual program performance from January 2012 through September 2014 and projected program performance for October - December 2014 in relation to the 2011 filing budget.

The energy reduction variance associated with the Load Management Program is attributed to the Companies' inclusion of a programmable thermostat option in the 2011 Case filing which was estimated to provide a demand savings of approximately 0.9 kW per switch with an anticipated implementation by mid-year 2012. Though the Companies continue to evaluate programmable thermostats, a solution has not been identified for implementation, resulting in not only a lower than anticipated energy reduction but also reduced program expenditures.

The approved modification of customer incentives has allowed the Companies to meet its participation goals as high saturation levels and the voluntary nature of the program has created challenges in the past.

Residential Load Management / Demand Conservation

	TRC Score	Participants	Energy (GWh)	Demand (MW)	Natural Gas (CCF)	Financials ($000)
2011 Filing Budget	3.62	42,450	8.80	36.90	519,787	$32,467
Actuals/Forecast 2012 - 2014	3.73	43,000	0.00	36.52	0	$25,683
Variance		550	(8.80)	(0.38)	(519,787)	($6,784)

Commercial Load Management / Demand Conservation

	TRC Score	Participants	Energy (GWh)	Demand (MW)	Natural Gas (CCF)	Financials ($000)
2011 Filing Budget	3.96	1,740	0.43	2.55	25,202	$1,569
Actuals/Forecast 2012 - 2014	3.14	410	0.00	10.42	0	$1,209
Variance		(1,330)	(0.43)	7.87	(25,202)	($360)

Program Name: Commercial Conservation/Commercial Incentive Program

The Commercial Conservation / Commercial Incentives Program provides participating commercial customers a better understanding of their energy consumption through energy audits and recommendations on energy-efficiency improvements. The Companies' commercial customers have an opportunity to apply for financial incentives to assist with replacing aging and less-efficient equipment.

In 2011, the Companies submitted an application for modification to the Commercial Conservation / Commercial Incentives Program. The filing enhancement was proposed in response to the growing rate of requests for inclusion of other applications and needs of the commercial customer segment. The Companies sought and received approval for: (1) the addition of refrigeration to be eligible as an energy efficiency retrofit; (2) the addition of Commercial Customized Incentives; and (3) the extension of the Commercial Conservation component of the program through 2018.

The Companies have successfully implemented the inclusion of refrigeration to its incentive eligibility. Additionally, commercial customers have the ability to apply for customized rebate solutions that go beyond prescriptive rebates for lighting, A/C units, pumps, motors, VFDs and chillers. Commercial customers now have the opportunity for a customized rebate solution that include LED lighting, compressed air systems, exhaust ventilation, A/C occupancy sensors, day lighting controls, induction lighting, insulation, and capacitor banks.

As the Companies have continued operation of the Commercial Conservation / Commercial Incentives Program, the opportunity for commercial customers to identify improvements and apply for rebates to help offset the improvement costs have been very successful. Through September 2014, the Companies have issued over $4.9M in rebates to commercial customers. The commercial building types taking advantage of the custom rebate solution include, but are not limited to, educational entities, healthcare facilities, retail buildings, and warehouses.

Program Performance
The table below demonstrates actual program performance from January 2012 through September 2014, and projected program performance for October - December 2014 in relation to the 2011 filing budget. Lower than anticipated customer engagement explain the noted variances in the program energy, demand and financial performance. That said, program TRC score is 5.90 which is well above the "passing" value over 1.0. To bolster customer engagement the Companies are expanding its business advocate relationships and new construction opportunities as well as amplifying marketing and education efforts with the commercial customer class. The approval of modifications addressed in Case No. 2014-00003 include the reduction of program participants to be reflective of the actual customer engagement witnessed over the last three years.

	TRC Score	Audits	Energy (GWh)	Demand (MW)	Natural Gas (CCF)	Financials ($000)
2011 Filing Budget	6.15	2,640	164.96	62.10	(458,645)	$9,838
Actuals/Forecast 2012 - 2014	5.90	2,557	145.10	54.57	(172,652)	$9,325
Variance		(83)	(19.87)	(7.53)	285,993	($513)

Program Name: Residential Conservation/Home Energy Performance Program
The Residential Conservation Program provides an on-site energy audit by a certified energy analyst who assesses the home's efficiency and provides a report with energy saving improvement recommendations.

In 2011, the Companies submitted an application for modification to the Residential Conservation/Home Energy Performance Program. The Companies sought and received approval to include customer incentives that encourage the implementation of energy retrofit measures recommended through the energy audit process. Through the implementation of energy saving improvements, residential customers who achieve at least 20% or 30% more efficiency in the home will be eligible for $500 or $1,000 in incentives, respectively, to help offset measure installation costs.

The Companies have implemented a successful on-sight tier structure as a means to motivate customers to participate in the Residential Conservation Program. As the program performance chart demonstrates below, the program has surpassed its anticipated performance. While this effort has been highly successful, through customer feedback and third party program review efforts, the Companies identified that there was additional opportunity to expand this program to better serve multi-family properties, as approved in Case No. 2014-00003.

Program Performance

The table below demonstrates actual program performance from January 2012 through September 2014, and projected program performance for October - December 2014 in relation to the 2011 filing budget.

	TRC Score	Audits	Energy (GWh)	Demand (MW)	Natural Gas (CCF)	Financials ($000)
2011 Filing Budget	1.42	18,800	12.30	3.10	393,873	$5,511
Actuals/Forecast 2012 - 2014	2.22	20,398	12.90	3.63	95,858	$4,930
Variance		1,598	0.61	0.53	(298,015)	($581)

The table below demonstrates the distribution between online audits and onsite audits per specified tier level completed through September 2014.

Online	Tier 1 (Standard Audit)	Tier 2 (20%+ savings)	Tier 3 (30%+ savings)	Total
14,613	4,903	271	610	20,398

Program Name: Residential Low Income Weatherization Program (WeCare)

The current Residential Low Income Weatherization Program (WeCare) was approved by the Commission in Case No. 2011-00134. The Residential Low Income Weatherization Program (WeCare) Program provides residential low-income customers, who meet the Low Income Home Energy Assistance Program (LIHEAP) guidelines with measures to help them better manage their energy usage and improve the comfort and safety of their homes. The program offers an on-site home energy analysis, educational materials, home weatherization services, and installation of energy conservation measures.

In 2011, the Companies submitted an application for modification to the Residential Low Income Weatherization Program. To address the growing need of the low income customer segment, the Companies sought and gained approval for the following program enhancements: (1) additional funds that will allow for increased weatherization measures for the low-income customer segment, further increasing energy savings; (2) increase the number of customers served over the program plan; and (3) extend the WeCare Program through 2018.

Historically, the program has utilized two business partners to meet the needs of customers participating in the WeCare program. With the approval of the increase in the number of customers to be served, the Companies have experienced a challenge addressing customer participation since the program expansion approval. To mitigate this programmatic issue going forward, the Companies will be working with an additional business partner to implement an expanded program deployment strategy. This partnership will address the displayed variances in the program performance table provided below. Through existing partnerships with Community Action Council, Association of Community Ministries and Honeywell, combined with the adoption of a new business partner, Solutions for Energy Efficiency Logistics (SEEL), the Companies expect to meet their projected participant goals resulting in the required energy and demand savings.

Program Performance

The table below demonstrates actual program performance from January 2012 through September 2014 and projected program performance for October - December, 2014 in relation to the 2011 filing budget. As noted above, while the Companies have experienced a challenge in addressing customer participation, due to the types of measures being implemented in participant homes the program TRC score has increased since the 2011 filing.

	TRC Score	Participants	Energy (GWh)	Demand (MW)	Natural Gas (CCF)	Financials ($000)
2011 Filing Budget	2.08	5,100	11.19	1.11	875,118	$9,326
Actuals/Forecast 2012 - 2014	2.32	4,840	9.62	0.88	769,328	$7,998
Variance		(260)	(1.56)	(0.23)	(105,790)	($1,328)

The table below demonstrates the distribution between specified tier levels and associated spend through mid-December 2014 for the WeCare Program.

Tier	Annual Usage Criteria	Participants	Spend ($000)
A	< 11,500 kWh	1,749	$663
B	11,500 to 16,000 kWh	1,308	$1,049
C	> 16,000 kWh	1,783	$2,205
Total		**4,840**	**$3,917**

Program Name: Program Development and Administration Program
The Program Development and Administration Program was established to capture costs incurred in the development and administration of energy efficiency programs where it is difficult to assign costs specifically to an individual program. The function of Program Development and Administration includes, but is not limited to, new program concept and initial design, market research related to new programming, research and technical evaluation of new technologies and programs, overall program tracking and management, development of key personnel, and membership in associated trade organizations.

In 2011, the Companies submitted and were granted approval for modifications to the Program Development and Administration Program that included the addition of three full- time positions. The requested positions have been filled and are currently supporting energy efficiency / demand-side management procurement, marketing, financial analysis, and evaluation, measurement, and verification (EM&V) efforts.

Program Performance
The table below demonstrates actual financial program performance from January 2012 through September 2014 and projected program performance for October - December 2014 in relation to the 2011 filing budget. The program budget is demonstrating a variance of $244K. This is a result of a $441K expense incurred by the department to complete the Energy Efficiency Potential Study conducted by Cadmus Group Inc.[2]

	Financials ($000)
2011 Filing Budget	$4,690
Actuals/Forecast 2012 - 2014	$4,934
Variance	($244)

[2] *In the Matter of: Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity and Site Compatibility Certificate for the Construction of a Combined Cycle Combustion Turbine at the Cane Run Generating Station and the Purchase of Existing Simple Combustion Turbine Facilities from Bluegrass Generation Company, LLC in LaGrange, Kentucky*, Case No. 2011-00375, Order at 18-21 (May 3, 2012).

New DSM/EE Programs

Program Name: Residential Refrigerator Removal Program

The Residential Refrigerator Removal Program provides removal and recycling services of inefficient secondary refrigerators and freezers to reduce consumption and demand. The Companies have experienced tremendous success with this program, as evidenced by the program performance table below. This program has been fully implemented and is operating as it was designed in Case No. 2011-00134.

Program Performance

The table below demonstrates actual program performance from January 2012 through September 2014 and projected program performance for October - December 2014 in relation to the 2011 filing budget. Through contract negotiation and positive business partner relationships, the Residential Refrigerator Removal Program has met all designated program performance targets while spending less than the approved filing budget.

	TRC Score	Participants	Energy (GWh)	Demand (MW)	Financials ($000)
2011 Filing Budget	1.84	22,000	16.50	1.87	$4,357
Actuals/Forecast 2012 - 2014	2.91	23,243	17.43	1.97	$4,200
Variance		1,243	0.93	0.11	($157)

Program Name: Smart Energy Profile Program

The Smart Energy Profile Program serves as a vehicle for delivering energy and cost saving information to residential customers. Through a contracted vendor, customer usage and fuel type data is coupled with third-party customer data (i.e. home type and square footage) to create "peer groups" amongst the customer base. Select customers receive bi-monthly reports through mail and email that describe how their energy usage compares to others in their "peer group," along with personalized tips and advice for reducing their energy use. This normative messaging style, a product of Applied Behavioral Science, engages and motivates consumers to take action and make better energy-use decisions.

As shown in the table below, statistically significant data analysis performed by the program vendor has shown that the Companies have met the projected demand reduction targets for this program. This analysis indicates that customers are acting on program messaging to effectively reduce demand during peak usage times. That said, customer response to messaging regarding effective energy reduction during non-peak times has fallen below expectations and will require modification to encourage customers to reduce energy consumption outside of peak usage times. The Companies believe that, due to Kentucky's low energy rates, perhaps customers are not acting on the advice for reducing their energy use.

To further understand and mitigate this concern, the Companies have enacted a strategy to increase the anticipated energy reduction for this program. The Companies have authorized early enrollment in the program to augment the amount of bi-monthly reports generated for customers. In addition, the Companies have just completed a customer focus group that represented the urban and rural configuration of the service territory. Once the focus group results are analyzed, the Companies will have actionable insights on how to further modify messaging to increase customer engagement.

Program Performance

The table below demonstrates actual program performance from January 2012 through September 2014 and projected program performance for October - December, 2014 in relation to the 2011 filing budget. As a result of the lower than anticipated energy reduction outside of peak usage events, the program TRC score has lowered to 1.35. While this score is lower than the initial filed score, it is still above the "passing" value over 1.0 indicating the program is still cost justified to operate.

	TRC Score	Participants	Energy (GWh)	Demand (MW)	Natural Gas (CCF)	Financials ($000)
2011 Filing Budget	2.36	205,000	58.08	11.10	974,995	$5,889
Actuals/Forecast 2012 - 2014	1.35	260,000	34.85	11.10	620,390	$5,551
Variance		55,000	(23.23)	0.00	(354,605)	($338)

Program Name: Residential Incentives Program

The Residential Incentives Program encourages the residential customer segment to purchase more efficient ENERGY STAR® appliances. Monetary rewards ranging from $50 to $300 are provided to help the Companies' residential electric customers offset the purchasing costs of certain ENERGY STAR® qualified appliances, high-efficiency HVAC systems, and qualified window film. The Residential Incentives Program has experienced overwhelming success since its inception due to its simple design and variety of appliances rebated. As such, through September 2014 the Companies have nearly doubled their anticipated rebated appliances and forecasted financial spend.

To address the exceedingly high customer participation and prevent early program termination, the Companies sought and gained approval in subsequent DSM Case No. 2014-00003 for increased incentive dollars available to customers to fund the program through 2018, consistent with the original filing for this program in Case No. 2011-00134.

Program Performance

The table below demonstrates actual program performance from January 2012 through September 2014 and projected program performance for October - December 2014 in relation to the 2011 filing budget.

	TRC Score	Participants	Energy (GWh)	Demand (MW)	Financials ($000)
2011 Filing Budget	2.31	46,200	35.56	6.40	$6,059
Actuals/Forecast 2012 - 2014	2.38	82,841	56.48	10.01	$9,199
Variance		36,641	20.93	3.61	$3,140

The table below demonstrates the number of customer incentives that have been paid per incentive category through September 2014.

	Incentives Paid
Central Air Conditioner	1,980
Central Heat Pump	1,866
Clothes Washer	23,844
Dishwasher	19,545
Freezer	1,938
Heat Pump Water Heater	420
Refrigerator	32,011
Window Film	1,237
Total	**82,841**