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Case No. 2010-00198

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May 13, 2010

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PUBLIC SERVICE COMMISSION

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HAND DELIVERED

Jeff R. Derouen
Executive Director
Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

RE: **Kentucky Power Company Demand-Side Management Program**

Dear Mr. Derouen:

Enclosed please find and accept for filing the original and ten copies of the Application of the Kentucky Power Company Demand-Side Management Collaborative[1] for authority to implement a new Commercial Incentive Program and a Pilot Residential and Small Commercial Load Management Program. Further information about the proposed programs may be found in the Application and cover letter from Mr. Wagner.

If you have any questions please do not hesitate to contact me.

Very truly yours,

Mark R. Overstreet

[1] The Attorney General has abstained.

Jeff R. Derouen, Executive Director
Kentucky Public Service Commission
P. O. Box 615
211 Sower Boulevard
Frankfort, KY 40602

April 30, 2010

Dear Mr. Derouen:

Re: Case No. 2010-00198

In the Matter of the Joint Application Pursuant to 1994 House Bill No. 501 for the Approval of Kentucky Power Company Collaborative Demand-Side Management Programs, and for Authority to Recover Costs, Net Lost Revenues And Receive Incentives associated with the Implementation of one New Residential, one combined Residential / Commercial and Two Commercial Demand-Side Management programs beginning August 2, 2010.

The Joint Applicants, with the exception of the Office of the Attorney General's representative who abstained, seek authority for Kentucky Power Company to implement one commercial and one combined residential / commercial DSM program to recover costs including net lost revenues and incentives related to those programs.

In this filing, the DSM Collaborative is requesting Commission approval of a new Commercial Incentive Program. The program is designed to address any cost-effective electricity saving measure not addressed or offered through other Kentucky Power Company (KPCo) Programs. Projects in the Commercial Incentive Program targets measures where the unit energy savings can be reliably predicted and therefore standard per-measure savings and incentive levels can be established. Specific savings and incentives for more complex systems or processes, most often requiring unique design and technology solutions for each participant, will be determined when the project is specified.

The DSM Collaborative is also requesting approval of a Pilot Residential and Small Commercial Load Management Program. The objective of this pilot program is to determine whether peak demand can be effectively reduced through the installation of load control devices on residential and small commercial central air-conditioners, heat pumps and / or electric water heaters. Load reduction is accomplished by reducing the duty cycle of air conditioning equipment and turning off water heaters during peak periods.

As is customary, the Company requests the Commission provide a letter of acknowledgement of this filing. If you have any questions, please contact me at (502) 696-7010.

Sincerely,

Errol K. Wagner by MRO

Errol K. Wagner
Director of Regulatory Services

enclosure

Commercial Incentive Program

1. DESCRIPTION

The Commercial Incentive Program is designed to address cost-effective electricity saving measures not addressed or offered through other Kentucky Power Company (KPCo) programs. Projects in the Commercial Incentive Program targets measures where the unit energy savings can be reliably predicted and therefore, standard per-measure savings and incentive levels can be established. For more complex systems and processes, or those requiring unique design and technology solutions for each participant, incentives will be based on the annual estimated energy savings as determined through engineering-based calculations or measured and verified energy savings. New construction could also be available by auditing the design plans and identifying energy saving measures. Fuel switching and previously completed projects are not eligible measures in the Commercial Incentive Program. All technologies are subject to eligibility and verification of savings projections.

2. RATIONALE FOR PROGRAM

Generate energy savings for all business customers through promotion of high efficiency electric lighting, HVAC, pumps, and motors. There are three primary objectives for this program:

- Increase the market share of commercial grade high efficiency technologies sold through market channels.
- Increase the installation rate of high efficiency technologies in commercial facilities by businesses that would not have done so in the absence of the program.
- Improve operating efficiency of existing long life equipment to insure peak operating efficiency for commercial customers.

3. PARTICIPATION GOALS

Year	Customers
2010	7
2011	88
2012	172

4. ELIGIBLE CUSTOMERS

All commercial customers are eligible to participate in this incentive program when they purchase qualifying equipment or services. Customers who do not own the facility (i.e., rent or lease) may participate in the program with the building owner's written consent. All projects must be pre-approved by KPCo prior to purchase or installation of any equipment or materials.

5. ELIGIBLE MEASURES

A listing of potential program measures to be delivered to commercial customers is summarized below. Energy efficiency measures may be added or subtracted based on recommendations of a third party program implementation contractor as selected through a competitive bidding process.

Lighting Measures

- Compact fluorescent lamps for indoor/outdoor (screw-in and pin-based fixtures)
- LED exit sign
- High-performance T8 lamps and fixtures (with electronic ballast) T12 to T8 conversion
- Standard T8 to reduced wattage T8 lamps
- T5 fluorescent lamps and fixtures (with electronic ballast)
- High-bay fluorescent lamps and/or fixtures to replace HID lamps
- *Pulse Start Metal Halide*
- Electronic dimming ballast
- Delamping with reflectors (combined with T8 ballast retrofit)
- Occupancy sensors
- LED Traffic Signals
- Cold cathode lamps

HVAC Measures

- High efficiency packaged HVAC equipment
- Addition of an economizer
- Programmable thermostat
- Reflective window film

Motors and Drive Measures

- NEMA Premium® motors
- Adding electronic adjustable speed drive to fans and pumps (variable frequency drives under 200 hp controlled)

For the Custom portion of this program, potential eligible measures will vary given the need to respond to custom applications, and may include measures such as:

- Process
- Refrigeration
- Compressed Air
- Controls
- Retrocommissioning
- Cool Roofs

6. INCENTIVES

Incentives under this program will be provided to customers at the lesser of (1) the calculated incentive level, as described below, or (2) up to 50% of the incremental equipment cost, those costs above federal and/or state standard efficiency levels, of qualifying energy efficient products. Incentive levels will be finalized based on proposals received from a program implementation contractor selected through a competitive bidding process. However, incentives for each portion of this program are defined in general terms below:

Prescriptive Measures

KPCo will work with the selected third party implementation contractor to define appropriate incentive levels for each qualifying energy efficiency measure. This will provide customers with a known incentive funding for each qualifying measure and will streamline the process of processing customer applications and provide KPCo with the ability to further pursue energy efficiency at the highest levels. Incentives under the Prescriptive portion of this program are estimated to be in the range of 8 cents per kWh of the estimated annual kWh savings expected from the project, on average, or as suggested by the selected third party contractor and will be provided to the customer as a one-time incentive payment.

Custom Measures

The selected third party implementation contractor will assist KPCo with the review, analysis, and verification of estimated energy savings associated with energy efficiency measures not included in the prescriptive portion of this program. Many of these projects will require in-depth engineering calculations, and KPCo will rely on the experience, expertise, and advice of the third party implementation contractor when deriving these projected savings. Incentives under the Custom portion of this program are estimated to be in the range of 8 cents per kWh of the estimated annual kWh savings expected from the project, on average, or as suggested by the selected third party contractor and will be provided to the customer as a one-time incentive payment.

Direct Install

KPCo may also implement, based on customer response to the program, a direct install option. This strategy will target those small businesses that typically do not have easy access to energy efficiency programs. For example, these businesses usually have limited access to the capital needed to perform energy efficiency upgrades and, at the same time, have other business projects competing for limited capital. The incentives for a direct install strategy are typically higher than those included in standard prescriptive-type programs. However, these higher incentives are necessary to encourage those customers to move toward higher energy efficiency levels. As reference, of KPCo's approximately 29,000 commercial and public authority accounts, approximately 93% of those have a peak demand of 50kW or less. KPCo will work with the selected third party program implementation contractor to determine the viability of a direct install strategy for KPCo's small business customers as well as other rules and requirements.

To ensure cost effectiveness, KPCo suggests that the minimum project simple payback must be greater than one year and the maximum project simple payback can be no greater than the life of the equipment and / or 10 years. If multiple projects are completed by a customer in a single calendar year, the incentives will be prioritized based on payback. The total incentive paid per project can not exceed $20,000 annually. However, KPCo may revise the payback range and/or the maximum incentive per project based upon program implementation contractor recommendations and/or overall customer response to the program. Custom measures will be evaluated on a case by case basis.

7. IMPLEMENTATION PLAN

Delivery of the Commercial Incentive Program will be achieved through the combined efforts of KPCo account managers and customer services account representatives, and a program implementation contractor hired through a competitive bidding process.

KPCo staff and the program implementation contractor will work to generate awareness of the Commercial Incentive Program among customers and market providers of energy efficiency services and equipment. The objective of the outreach activities is to identify and develop custom projects for further analysis.

Outreach by the KPCO account managers and customer services account representatives will be emphasized in the early stages of the program to expedite previously identified potential for projects that have been stalled. Greater emphasis will be placed on generating energy efficiency service provider referrals in 2011 and beyond to expand participation and reduce costs as the KPCo network of program allies grows.

KPCo and the program implementation contractor will work with customers and market providers to identify and pre-qualify prospective projects. This may involve completing custom engineering calculations that assess the energy saving potential, payback, project eligibility, and incentive amount. The customer must submit a pre-application before the project start-up.

If the project is approved by the program implementation contractor, the customer will receive an approval letter describing the terms for acceptance of the project. The customer has a limited time (30 days) to sign the acceptance offer to reserve incentive funding. Upon customer signature of the incentive offer, the program implementation contractor will schedule a pre-installation inspection with the customer to capture pre-work conditions. The customer has a limited time period (6 months) to complete the project to be eligible for reimbursement, or request a limited time extension.

Once projects are completed, the program implementation contractor will assist the customer to verify the installation to ensure program integrity before issuing payment. Post installation inspections and documentation review must be completed by the program implementation contractor to insure the project is operating as intended. The inspection and documentation review may result in modifications to claimed savings and incentive amount. The program implementation contractor will submit final incentive claims to KPCo for payment. KPCo has the option to perform a random sample of post installation inspections to verify the services performed at customer premises and to determine the customer's satisfaction with the project.

8. EVALUATION

A. Goals

KPCo will perform an evaluation assessing and documenting the program's processes and estimating the program's impacts as well as performing a benefit/cost analysis from data collected by the program implementation contractor on the various program measures installed.

B. Objectives

The program evaluation objectives are to:

1. Assess participant satisfaction with energy efficient technologies of measures installed, the service performed by the contractors, marketing representatives, and the program as a whole;

2. Assess the effectiveness of the program delivery mechanism, including the efficiency of program operation and marketing efforts;

3. Gain insight into market potential, including the participant and non-participant characteristics, participation rate, and customer awareness;

4. Determine the program load impact, including the energy savings and demand reduction, measure persistence, snap-back effect, and free ridership; and

5. Assess program cost-effectiveness based on the standard economic tests.

9. TIMELINE

Action	Start	End
Program Approval	04/10	08/10
Implementation	08/10	12/12
Evaluation	08/10	06/12*

* Evaluation report will be provided on 08/15/12.

10. ANNUAL BUDGET

	Year 1	Year 2	Year 3
Contractor Administration*	$ 98,450	$ 236,268	$ 461,796
Customer Incentives*	$ 44,748	$ 562,544	$ 1,099,517
Promotion	$ 25,000	$ 60,000	$ 98,960
Program Evaluation	$ 8,000	$ 37,340	$ 68,210
TOTAL COSTS	$ 176,198	$ 896,152	$ 1,728,483

*Projected contractor administration / incentive costs are based on "Request for Budgetary Information" obtained from Franklin Energy Services and KEMA Services, Inc. Projected Promotion / Evaluation Costs are based on the best information available at the time of program design as determined by KPCo and KEMA Services.

11. EXPECTED SAVINGS / BENEFITS

Year	Summer Peak Demand (kW) Reduction	Winter Peak Demand (kW) Reduction	Annual Energy (MWh) Reduction
2010	47	82	392
2011	596	1,034	4,929
2012	1,165	2,021	9,635

Projected energy savings and demand reductions are estimated based on the anticipated number of installations of various types of energy-efficient measures installed in commercial buildings. The estimated effects of T & D losses are included. Freeriders are included.

The projected annual program effects at the end of the three-year period are an energy savings of 14,956 MWh and peak winter and summer demand reductions of 3,137 kW and 1,808 kW, respectively.

12. COST / BENEFIT ANALYSIS

Benefit / cost ratios based on the best information available at the time of program design.

a.	Total Resource Cost	=	3.41
b.	Ratepayer Impact Measure	=	0.71
c.	Participant	=	8.50
d.	Utility Cost	=	2.39

Pilot
Residential and Small Commercial Load Management Program

1. DESCRIPTION

The objective of this pilot program is to determine whether peak demand can be effectively reduced through the installation of load control devices on residential and small commercial central air-conditioners, heat pumps and/or electric water heaters. Load reduction is accomplished by reducing the duty cycle of air conditioning equipment and turning off water heaters during peak periods.

2. RATIONALE FOR PROGRAM

Load management of central air-conditioning, heat pumps and water heaters has become a widely used strategy of electric utilities across the country to reduce peak demand and thereby lower costs and delay future generating requirements. Such programs are normally effective since they target some of the main drivers of the summer / winter peak. The Company plans to have the capability to control devices for up to 150 hours per year at a maximum duty cycling of 6 consecutive hours.

3. PARTICIPATION GOALS

A total of 1,000 residential customers and 100 small commercial customers are desired to accomplish the program goals for the pilot three year program (2010 – 2012). The Company projects the installation of load control devices as described below:

Residential Goals

Year	Switches - A/C	Switches - Water Heaters	Total Switches
2010	25	25	50
2011	475	475	950
2012	500	500	1,000

Commercial Goals

Year	Switches - A/C	Switches - Water Heaters	Total Switches
2010	10	10	20
2011	45	45	90
2012	45	45	90

4. ELIGIBLE CUSTOMERS

Residential and small commercial customers taking retail electric service from KPCo with qualifying central air-conditioning, heat pump and/or electric water heating equipment will be eligible to participate in the program. Customers who do not own the residence or facility (i.e., rent or lease) may participate in the program with the building owner's written consent.

5. INCENTIVES

KPCo will provide incentives to residential and small commercial who allow KPCo to install, own, operate and maintain a load cycling switch on the customer's qualifying central air-conditioning, heat pump and/or electric water heating equipment. The incentive will be structured as follows:

A residential customer with central air-conditioning will receive $20 per year ($5 per summer months, June, July, August, and September) for each air-conditioning or heat pump unit participating in the program. Small commercial customers will also receive $20 per year ($5 per summer months, June, July, August, and September). Residential and small commercial customers with a qualifying electric water heater will receive an additional $8 per year ($1 per summer & winter months, June, July, August, September, November, December, January and February), per unit to participate. In the areas where necessary communication infrastructure is not readily available, the program will not be available to those customers.

5. IMPLEMENTATION PLAN

A. Promotion

KPCo will promote the program to potential customers by direct contact, electronic or USPS mail notice, or other expeditious means. Customers will sign a participation agreement with KPCo to properly document customer approval.

B. Delivery

The customer will allow KPCo access to the residence/building to install the required devices, test communication with KPCo, and instruct the customer in the proper handling and purpose of the load cycling device.

C. Quality Assurance

KPCo reserves the right to inspect the equipment to ensure that it remains in proper operating order.

D. Evaluation

KPCo will perform an evaluation relating to the program's impact and processes, including program objectives, data collection procedures, quality assurance methodologies, reporting timelines, costs, and the program's cost/benefit analyses.

The program evaluation objectives will be to:

1. Assess participant satisfaction with the program;
2. Gain insight into the market potential, including the participant characteristics, participation rate, and customer awareness of energy efficiency;
3. Determine the program impacts, including energy savings (KWh) and demand reduction (kW), and program value to customers;
4. Assess the program's cost-effectiveness based on various economic tests;
5. Assess the effectiveness of program delivery mechanisms.

6. TIMELINE

Action	Start	End
Program Approval	04/10	08/10
Implementation	08/10	12/12
Evaluation	08/10	06/12*

*An Evaluation Report will be provided to the Public Service Commission on or before August 15, 2012, which will be based on 2011 program impacts.

7. ANNUAL BUDGET

Residential

	Year 1	Year 2	Year 3
Administrative	$115,305	$ 230,610	$ 230,610
Promotion	$ 15,000	$ 35,000	$ 35,000
Equipment	$ 9,300	$ 176,700	$ 186,000
Equipment Installation	$ 3,275	$ 62,225	$ 65,500
Switch Maintenance	$ 250	$ 4,780	$ 5,030
Incentives	$ 75	$ 14,000	$ 28,000
Evaluation	$ 6,200	$ 29,460	$ 29,750
TOTAL COSTS	$149,405	$ 552,775	$ 579,890

Commercial

	Year 1	Year 2	Year 3
Administrative	$ 12,810	$ 25,625	$ 25,625
Promotion	$ 1,000	$ 3,000	$ 3,000
Equipment	$ 4,690	$ 21,105	$ 21,105
Equipment Installation	$ 1,320	$ 5,940	$ 5,940
Switch Maintenance	$ 120	$ 540	$ 540
Incentives	$ 30	$ 1,540	$ 2,800
Evaluation	$ 1,000	$ 2,890	$ 2,950
TOTAL COSTS	$ 20,970	$ 60,640	$ 61,960

8. EXPECTED SAVINGS / BENEFITS

One of the purposes of this pilot program is to collect the actual energy and demand savings from the use of load control devices applied to residential / small commercial central air-conditioners, heat pumps and / or electric-water heaters. The results of the actual savings and the actual costs will be used to determine the cost-effectiveness of the program. KPCo will need to have enough load data at a minimum for a full winter season and full summer season in order to prepare a complete analysis of the program. If the program is approved according to the schedule outlined in the TIMELINE noted above, a full evaluation report is planned to be completed at the latest during the first half of 2012.