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COMMISSION**

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

February 26, 2010

Dear Mr. Derouen:

Re:

Case No. 2010-00095

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 one Commercial Demand-Side Management program beginning January 1, 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 residential, one combined residential / commercial and one commercial DSM programs 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 Residential Efficient Products Program. This residential program will provide incentives and marketing support through retailers to build market share and usage of ENERGY STAR® lighting products to reduce the amount of lighting in a home. The program targets the purchase of lighting products through in-store promotion as well as special sales events. Customer incentives facilitate the increased purchase of high efficiency products.

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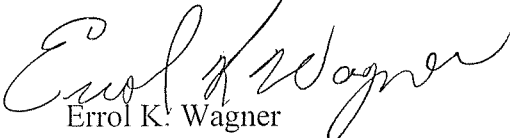
The DSM Collaborative is also requesting approval of a HVAC Diagnostic and Tune-up Program. This program will be targeted to residential and small commercial customers within the Kentucky Power service territory that utilize an electric central air-conditioning or heat pump system. A financial incentive will be provided to participating customers who have a diagnostic performance of their central air-conditioner or heat pump system. HVAC dealers performing the diagnostic check are also eligible for an incentive.

The DSM Collaborative is also requesting approval of a Commercial High Efficiency Heat Pump / Air Conditioner Program. This program will be targeted to small commercial customers (< 100 kW demand) who purchase a new qualifying central air-conditioner or heat pump up to a 5-ton unit with a Consortium for Energy Efficiency rating . A financial incentive will be provided to participating customers who up-grade to a central air-conditioner or heat pump that meets program guidelines. HVAC dealers installing qualified equipment are also eligible for an incentive.

Finally, the DSM Collaborative is planning on filing a request for Commission approval for a Pilot Load Control Program and a Commercial Incentive Program no later than April 30, 2010.

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
Director of Regulatory Services

enclosure

Residential Efficient Products Program

1. DESCRIPTION

Kentucky Power Company (KPCo) will provide incentives and marketing support through retailers to build market share and usage of ENERGY STAR® lighting products to reduce the amount of lighting in a home. The program targets the purchase of lighting products through in-store promotion as well as special sales events. Customer incentives facilitate the increased purchase of high efficiency products while in-store signage, sales associate training and support makes provider participation easier.

2. RATIONALE FOR PROGRAM

The residential efficient products program will produce long-term energy savings in the residential sector by increasing the market share of ENERGY STAR® CFLs or other ENERGY STAR® lighting products sold through retail sales channels.

3. PARTICIPATION GOALS

Jan. 2010 through Dec. 2010	31,250 bulbs
	200 other lighting products
Jan. 2011 through Dec. 2011	125,000 bulbs
	800 other lighting products
Jan. 2012 through Dec. 2012	125,000 bulbs
	800 other lighting products

4. ELIGIBLE CUSTOMERS

Residential retail customers in Kentucky Power's service territory are eligible to participate.

5. INCENTIVES

KPCo will provide monetary incentives as inducements for customers to purchase ENERGY STAR® high efficiency CFLs and/or other ENERGY STAR® lighting products as listed below:

- CFLs (Screw-In or Pin Based) Indoor and Outdoor for Replacement of Incandescent Lighting

- Ceiling Fan w/ENERGY STAR® Light Fixture
- LED Holiday Lights
- LED Night Lights

6. IMPLEMENTATION PLAN

KPCo will utilize a markdown approach as the primary driver of volume within the program. With a markdown approach, KPCo will reimburse select retailers for discounting the cost of ENERGY STAR® CFLs or other lighting products by a specified dollar amount per unit during special limited term promotions. The qualifying product would be listed at a lower retail price on store shelves or marked down automatically at the register. At the end of every month, the retailer provides a point of sale report and would be reimbursed for the discount provided on each unit that they have sold. This strategy eliminates costs associated with main-in rebate fulfillment and printing claim forms

7. 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.

B. Objectives

The program evaluation objectives are to:

1. Assess participant satisfaction with the program; Survey
2. Quantify the participant characteristics, participation rate, and installation rate.
3. Estimate 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.

C. Methodology

KPCo or its contractor/affiliate will periodically survey the parties receiving the ENERGY STAR® compact fluorescent lamps and/or other lighting products. Survey questions will address customer satisfaction, installation information, program awareness, hours of operation, and future purchase intentions, and customer status.

8. TIMELINE

<u>Action</u>	<u>Start</u>	<u>End</u>
Program Approval	02/10	06/10
Implementation	06/10	12/12
Evaluation	01/12	06/12*

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

9. ANNUAL BUDGET

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
CFL/ Markdowns	\$ 31,250	\$ 125,000	\$ 125,000
Other Lighting Products Incentives	\$ 1,100	\$ 4,400	\$ 4,400
Administration/Promotion*	\$ 17,000	\$ 55,000	\$ 55,000
Evaluation	<u>\$ 1,000</u>	<u>\$ 1,000</u>	<u>\$ 15,000</u>
TOTAL COSTS	\$ 50,350	\$ 185,400	\$ 199,400

*Administration/Promotional Costs based on a Market Potential Study performed by SUMMIT BLUE Consulting, LLC, for a similar Residential Lighting Program for AEP – Appalachian Power Company.

10. EXPECTED SAVINGS / BENEFITS

- a. Anticipated Load Impact Per CFL (Indoor Only):
 - Energy Savings Year = 49.6 kWh
 - Demand Reduction = 0.010 kW (@ system winter peak)
 - = 0.001 kW (@ system summer peak)

- b. Anticipated Load Impact Per Ceiling Fan w/ ENERGY STAR® Light fixture:
 - Energy Savings Year = 180 kWh
 - Demand Reduction = 0.026 kW (@ system winter peak)
 - = 0.003 kW (@ system summer peak)

- c. Anticipated Load Impact Per LED Holiday Lights (25 bulbs/string):
 - Energy Savings Year = 3.6 kWh
 - Demand Reduction = 0.000 kW (@ system winter peak)
 - = 0.000 kW (@ system summer peak)

- d. Anticipated Load Impact Per LED Night Light:
 - Energy Savings Year = 21.9 kWh
 - Demand Reduction = 0.001 kW (@ system winter peak)

= 0.000 kW (@ system summer peak)

- e. Annual Expected Program Savings/Benefits (including T&D losses) @ 125,000 bulbs and 800 other lighting products in one year:

<u>Summer Peak Demand (kW) Reduction</u>	<u>Winter Peak Demand (kW) Reduction</u>	<u>Annual Energy (MWh) Reduction</u>
126	1,105	5,394

Projected energy savings and demand reductions are estimated based on the anticipated number of compact fluorescent lamps installed. Estimated effects of 20% freeriders are included.

- f. Projected Program MWh Savings and kW Reduction Assuming Participation (including T&D losses):

Goal of 281,250 bulbs and 1,800 lighting products is achieved (all customers in three years)

Energy Savings = 12,138 MWh
 Demand Reduction = 2,493 MW (@ system winter peak)
 = 243 MW (@ system summer peak)

11. COST / BENEFIT ANALYSIS

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

a.	Total Resource Cost	=	1.48
b.	Ratepayer Impact Measure	=	0.47
c.	Participant	=	2.08
d.	Utility Cost	=	9.18

Commercial High Efficiency Heat Pump / Air Conditioner Program

1. DESCRIPTION

Kentucky Power Company (KPCo) will offer a financial incentive to small commercial customers (< 100 kW demand) who purchase a new qualifying central air conditioner or heat pump up to a 5-ton unit with a Consortium for Energy Efficiency (CEE)_{SM} rating and who comply with pertinent eligibility requirements of the program.

2. RATIONALE FOR PROGRAM

The commercial high-efficiency heat pump / air conditioner program is designed to encourage the purchase of energy efficient central air conditioners and heat pumps identified by the U. S. Department of Energy (DOE), the U. S. Environmental Protection Agency (EPA) and/or the Consortium for Energy Efficiency (CEE) as being influential in energy efficiency. This program targets the existing retrofit market only.

This program is beneficial, as it helps lower electric bills for all commercial customers and allows KPCo to utilize its existing generating capacity more efficiently, thereby deferring or delaying the need for new generation as well as conserving our country's valuable natural resources.

3. PARTICIPATION GOALS

	<u>Air Conditioner Replacement</u>	<u>Heat Pump Replacement</u>
Jan. 2010 thru Dec. 2010	50	10
Jan. 2011 thru Dec. 2011	100	20
Jan. 2012 thru Dec. 2012	100	20

4. ELIGIBLE CUSTOMERS

Eligible existing retail small commercial customers must:

- Have unit installed at a location receiving electric service from KPCo;
- Have a maximum peak demand less than 100 kW over the previous 12 months;
- Install a central air conditioner or heat pump that meets the (CEE)_{SM} guidelines as indicated by listing in the CEE/ARI Verified Directory.

Licensed HVAC dealers installing qualifying equipment will also be eligible to receive an incentive.

5. INCENTIVES

KPCo will provide monetary incentives as inducements for customers to purchase higher efficiency eligible central air conditioners and heat pumps meeting the specifications at the CEE Tier 1 level instead of baseline efficiency (i.e., standard) air conditioners and heat pumps. The incentive is designed to offset a portion of the additional cost involved with the qualified purchase of the higher efficiency central air conditioner or heat pump. KPCo will pay incentives for each central air conditioner or heat pump replaced based on the following tables:

Unitary Central Air Conditioner for Units Meeting CEE Specifications

<u>Equipment Type</u>	<u>Size Category</u>	<u>Sub Category</u>	<u>CEE Tier 1</u>
Air Cooled Cooling Mode	<65,000 Btu/h	Split System	14 SEER 12.0 EER
Air Cooled Cooling Mode	<65,000 Btu/h	Single Package	14 SEER 11.6 EER

KPCo will pay a \$250 incentive for each central air conditioner equal to or less than 36,000 Btu/h. A \$400 incentive will be paid for each central air conditioner greater than 36,000 Btu/h and less than 65,000 Btu/h. A \$50 incentive will be paid to participating HVAC dealers for each air conditioner installed.

Unitary Heat Pump for Units Meeting CEE Specifications*

<u>Equipment Type</u>	<u>Size Category</u>	<u>Sub Category</u>	<u>CEE Tier 1</u>
Air Cooled Cooling Mode	<65,000 Btu/h	Split System	14 SEER 12.0 EER
Air Cooled Cooling Mode	<65,000 Btu/h	Single Package	14 SEER 11.6 EER
Air Cooled Heating Mode	<65,000 Btu/h	Split System	8.5 HSPF
Air Cooled Heating Mode	<65,000 Btu/h	Single Package	8.0 HSPF

KPCo will pay a \$300 incentive for each heat pump equal to or less than 36,000 Btu/h. A \$450 incentive will be paid for each heat pump greater than 36,000 Btu/h and less than 65,000 Btu/h. A \$50 incentive will be paid to participating HVAC dealers for each heat pump installed.

*Eligibility for Central Heat Pump incentive is limited to customers whose primary heating source is electricity.

6. IMPLEMENTATION PLAN

A. Promotion

KPCo will promote the program to its small commercial customers by written information in monthly electric bills, media promotion of eligible central air conditioners and heat pumps, direct contact, or other expeditious means.

KPCo will contact HVAC dealers in its service area to explain the program, encourage their participation, and provide educational outreach materials and incentive rebate forms.

B. Delivery

KPCo representatives will work in conjunction with trade allies to promote high efficiency air conditioners / heat pumps in place of less efficient electric heating and cooling systems.

C. Quality Assurance

The program will be regularly reviewed by KPCo staff responsible for the program as well as the Company's DSM Collaborative. The Company will maintain communication with trade allies as well as respond to any customer inquiries. A selected sample of installations will be inspected to verify quality of installation.

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.

7. **TIMELINE**

<u>Action</u>	<u>Start</u>	<u>End</u>
Program Approval	02/10	06/10
Implementation	06/10	12/12
Evaluation	01/12	06/12*

*Evaluation Report will be provided on 08/15/12

8. **ANNUAL BUDGET**

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Customer Incentives	\$ 24,500	\$ 49,000	\$ 49,000
Equipment/Vendor	\$ 3,000	\$ 6,000	\$ 6,000
Promotion	\$ 5,700	\$ 12,000	\$ 12,000
Evaluation	\$ 2,000	\$ 2,000	\$ 6,000
TOTAL COSTS	\$ 35,200	\$ 69,000	\$ 73,000

9. **EXPECTED SAVINGS / BENEFITS**

a. Anticipated load Impact Per Participant: (Based on 5 Ton Units)

Upgrading Heat Pump Customers:

Energy Savings Per Year = 1,240 kWh
 Demand Reduction = 0.350 kW
 (@ system winter peak)
 = 0.164 kW
 (@ system summer peak)

b. Upgrading Air Conditioning Customers: (Based on 5 Ton Units)

Energy Savings Per Year = 313 kWh
 Demand Reduction = 0.000 kW
 (@ system winter peak)
 = 0.164 kW
 (@ system summer peak)

HVAC Diagnostic and Tune-up Program

1. DESCRIPTION

Kentucky Power Company (KPCo), working with participating licensed HVAC dealers, will target residential and small commercial customers with HVAC system performance problems.

2. RATIONALE FOR PROGRAM

The objective of this program is to reduce energy use by conducting a diagnostic performance check on residential and small commercial unitary air conditioning and heat pump units, air restricted indoor and outdoor coils, and over and under refrigerant charge. Units determined to have one of these four problems will be eligible for corrective action.

Numerous HVAC systems with these maintenance requirements are marginally operational and the customer is unaware of the situation. These units experience longer run times resulting in excess energy consumption and demand, and reduced unit life. The resulting repairs will reduce energy usage and demand, improve customer comfort and extend the serviceable life of the unit.

3. PARTICIPATION GOALS

	<u>Residential</u>		<u>Small Commercial</u>	
	<u>HP</u>	<u>CAC</u>	<u>HP</u>	<u>CAC</u>
Jan. 2010 thru Dec. 2010	40	60	4	26
Jan. 2011 thru Dec. 2011	215	325	24	136
Jan. 2012 thru Dec. 2012	280	420	30	170

4. ELIGIBLE CUSTOMERS

Residential and small commercial customers (less than 100 kW) with unitary central air-conditioning or heat pump systems are eligible. The program is not designed for customers who seek repair of non-operational units. Those units are outside the scope of this program.

5. INCENTIVES

KPCo will offer residential and small commercial customers a \$50.00 and \$75.00, incentive respectively, for the diagnostic and tune-up service. Participating HVAC dealers will also receive a \$50 incentive for promoting the program.

6. IMPLEMENTATION PLAN

A. Promotion

KPCo will develop relationships with HVAC dealers to promote the HVAC Tune-up program. Media advertising, such as newspaper, radio, television, and billboard, may also be used.

B. Delivery

KPCo representatives will work in conjunction with participating HVAC dealers to target residential and small commercial customers with probable HVAC system performance problems.

C. Quality Assurance

The program will be regularly reviewed by KPCo staff responsible for the program as well as the Company's DSM Collaborative. The Company will maintain communication with participating HVAC dealers as well as respond to any customer inquiries. A selected sample of the tune-ups performed will be inspected to assure corrective action is being performed properly and that resulting energy savings are being achieved.

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.

7. TIMELINE

<u>Action</u>	<u>Start</u>	<u>End</u>
Program Approval	02/10	06/10

Implementation	06/10	12/12
Evaluation	01/12	06/12*

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

8. ANNUAL BUDGET

a. <u>Residential</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Customer Incentive (\$50/participant)	\$ 5,000	\$ 27,000	\$ 35,000
Equipment/Vendor (\$50/vendor)	\$ 5,000	\$ 27,000	\$ 35,000
Promotion (Marketing)	\$ 6,000	\$ 6,000	\$ 6,000
Administrative Costs	\$ 700	\$ 3,780	\$ 4,900
Evaluation	\$ 0	\$ 0	\$ 8,500
TOTAL COSTS	\$ 16,700	\$ 63,780	\$ 89,400
b. <u>Commercial</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Customer Incentive (\$75/participant)	\$ 2,250	\$ 12,000	\$ 15,000
Equipment/Vendor (\$50/vendor)	\$ 1,500	\$ 8,000	\$ 10,000
Promotion (Marketing)	\$ 3,000	\$ 3,000	\$ 3,000
Administrative Costs	\$ 210	\$ 1,120	\$ 1,400
Evaluation	\$ 0	\$ 0	\$ 3,200
TOTAL COSTS	\$ 6,960	\$ 24,120	\$ 32,600

9. EXPECTED SAVINGS / BENEFITS

a. Anticipated load Impact Per Residential Participant :

Energy Savings Per Year (HP) = 741 kWh (Heating & Cooling)
(CAC) = 311 kWh (Cooling)
Demand Reduction = 0.219 kW (HP only)
(@ system winter peak)
= 0.169 kW (HP & CAC)
(@ system summer peak)

Anticipated load Impact Per Commercial Participant:

Energy Savings Per Year (HP) = 1,638 kWh (Heating & Cooling)
 (CAC) = 687 kWh (Cooling)
 Demand Reduction = 0.507 kW (HP only)
 (@ system winter peak)
 = 0.357 kW (HP & CAC)
 (@ system summer peak)

b. Annual Expected Program Savings/Benefits (including T&D losses) @ 700 (540 Residential and 160 Sm. Commercial) units in the second year:

	<u>Summer Peak Demand Reduction</u>	<u>Winter Peak Demand Reduction</u>	<u>Annual Energy Reduction</u>
Residential	99 kW	52 kW	281 MWh
Sm.Comm.	63 kW	13 kW	143 MWh

Projected energy savings and demand reductions are estimated based on the anticipated number of installations. No free-riders are assumed.

c. Projected Program MWh Savings and kW Reduction Assuming Participation (Including T&D losses):

Goal of 1,340 Residential units and 390 Sm. Commercial units is achieved (all customers in three years)

Residential: Energy Savings = 699 MWh
 Demand Reduction = 128 kW
 (@ system winter peak)
 = 249 kW
 (@ system summer peak)

Sm. Comm. Energy Savings = 349 MWh
 Demand Reduction = 32 kW
 (@ system winter peak)
 = 153 kW
 (@ system summer peak)

10. COST / BENEFIT ANALYSIS

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

			Residential	Commercial
a.	Total Resource Cost	=	1.15	1.51
b.	Ratepayer Impact Measure	=	0.29	0.35
c.	Participant	=	6.07	7.97
d.	Utility Cost	=	1.00	1.17

