

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

EAST KENTUCKY POWER COOPERATIVE)
INC.'S FILING TO RESUME THE DEMAND-)
SIDE MANAGEMENT DEMONSTRATION) CASE NO. 2007-00553
PROJECT FOR DIRECT LOAD CONTROL OF)
WATER HEATERS AND AIR CONDITIONERS)

O R D E R

On December 20, 2007, East Kentucky Power Cooperative, Inc. ("EKPC") filed a report on the results of the Direct Load Control of Water Heaters and Air Conditioners Demonstration Project ("Program"), in compliance with the Commission's Order of April 18, 2006¹. In addition, EKPC is requesting a resumption of this program until a permanent program is approved by the Commission.

DISCUSSION

The Program was originally approved in April 2006. Two EKPC members, Big Sandy Rural Electric Cooperative Corporation ("Big Sandy") and Blue Grass Energy Cooperative Corporation ("Blue Grass"), agreed to participate in a pilot program to determine whether the load control of water heaters and air conditioners would prove to be successful demand-side management programs for the entire EKPC system. The Program is intended to reduce peak demand by curtailing air conditioner and water heater run time.

¹ Case No. 2006-00048, The Request of East Kentucky Power Cooperative, Inc. for a Determination of Reasonableness of New Demand Side Management Program, Direct Load Control of Water Heaters and Air Conditioners.

Blue Grass began recruiting participants through direct mail soon after Commission approval of the Program. A total of 473 load control switches were installed on central air conditioning or heat pump units, and 244 switches were installed on electric water heaters by July 2006. Big Sandy began recruiting participants in July 2006, also through direct mail. A total of 142 switches were installed on water heaters in Big Sandy's territory by October 2006. Big Sandy elected not to participate in load control of air conditioners.

The Program covered two summers for air conditioning and 12 months for water heaters and was completed in September 2007. The Program was administered by GoodCents Solutions ("GoodCents"), a private energy management company that provides demand-response and energy efficiency programs to utilities nationwide. GoodCents has administered similar load management programs for Louisville Gas and Electric Company and Kentucky Utilities Company.

GoodCents collected metered water heater and air-conditioner data from customers after the test period to determine the effects of the load control. Measurements that were analyzed included average demand reduction per switch, the impact of weather on air conditioner and water heater load relief, customer satisfaction and the potential impact of a full-scale program.

Demand reduction for both air conditioning units and water heaters was reported as significant. During the first summer of the demonstration project air conditioner compressors were not allowed to run for one out of every three 7.5 minute intervals during the control period. During the second summer the compressors were run 7.5 minutes out of every 15 minutes (50 percent cycling) during the control period which

resulted in a 1.1 kW reduction per air conditioning unit. The 33 percent cycling used during the first summer resulted in a 0.6 kW reduction.

Over the course of the demonstration project, water heater demand reduction was 0.46 kW per appliance in the summer and 0.59 kW in the winter. The interruption cycle of the water heaters was programmed for 4 hour control during the on-peak period.

According to EKPC, customer satisfaction with the Program was very positive. Only one customer out of 142 water heater project participants in the Big Sandy territory requested to be removed from the program. In Blue Grass's territory only 14 out of 473 air conditioner project participants and only 8 out of 244 water heater participants requested to have the load control switches removed.

The actual cost of the Program was \$368,393, which was considerably more than EKPC's estimated cost of \$296,000. The cost discrepancy was due primarily to the incorrect assumption that one switch would be able to perform the control of both appliances in homes that participated in both aspects of the Program. Due to the location of each appliance, EKPC determined that a separate switch was needed for each appliance. The cost of additional switches and the additional time required to install the second switches accounted for the majority of the difference between the estimated and actual cost of the Program.

The Commission's Order in Case No. 2006-00048,² approving the Program obligated EKPC to file a new tariff by August 31, 2007 if it intended to temporarily extend the Program beyond September 30, 2007, while the results of the pilot program were being analyzed. However, the results of the Program were not known on August 31, 2007, and EKPC did not request extension of the Program at that time. Based on the positive results of the Program, EKPC plans to file for permanent approval which will enable it to maximize participation rates among its Members and experience the demand reductions that the pilot program has demonstrated. Until such time as a permanent program is filed and approved by the Commission, EKPC requests that this Program be resumed. Resumption of the Program will allow EKPC to avoid the added cost of removing the installed switches and will allow EKPC to continue using the switches for participants who elect to remain in a permanent program.

The Commission, having considered the evidence of record and being otherwise sufficiently advised, finds that the proposed demonstration project tariff is reasonable and consistent with the provisions of KRS 278.285 and should be continued until such time as a permanent program tariff is filed and approved by the Commission.

IT IS THEREFORE ORDERED that:

1. EKPC's request to resume the Demonstration Project for Direct Load Control of Water Heaters and Air Conditioners is approved as proposed.

² Case No. 2006-00048, The Request of East Kentucky Power Cooperative, Inc. for a Determination of Reasonableness of a New Demand-Side Management Program, Direct Load Control of Water Heaters and Air Conditioners, final Order dated April 18, 2006.

2. If EKPC desires to make its Direct Load Control of Water Heaters and Air Conditioning Program permanent, it shall file an application requesting such approval no later than December 31, 2008.

3. Within 20 days from the date of this Order, EKPC shall file its revised tariff for the Program including its effective date and showing that it was approved by authority of this Order.

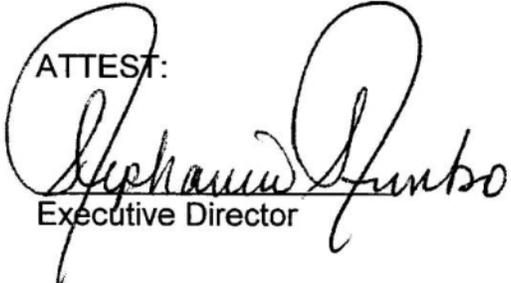
4. EKPC shall file a report on the Program approved herein in accordance with the Program tariff.

5. EKPC shall apply for Commission approval to change, terminate, or extend the program in any manner that differs from that contained in its application or tariff 6 months prior to the effective date of the proposed action.

Done at Frankfort, Kentucky, this 20th day of March, 2008.

By the Commission

ATTEST:


Executive Director