

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY POWER	)	
COMPANY FOR AN ORDER APPROVING	)	
A PILOT REAL-TIME PRICING PROGRAM	)	CASE NO.
FOR LARGE COMMERCIAL AND INDUSTRIAL	)	2007-00166
CUSTOMERS	)	

O R D E R

On April 20, 2007, Kentucky Power Company (“Kentucky Power”) submitted an application to the Commission for approval to implement a voluntary real-time pricing pilot program (“RTP”) for large commercial and industrial customers pursuant to the Commission’s directive in Administrative Case No. 2006-00045.<sup>1</sup> The Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention (“AG”), and Kentucky Industrial Utility Customers, Inc. (“KIUC”) were granted intervention in this proceeding. On May 15, 2007, the Commission established a procedural schedule that allowed for two rounds of discovery, written comments and the opportunity to request a hearing. The AG filed comments on July 12, 2007. Kentucky Power filed reply comments on July 23, 2007 and requested an informal conference. The informal conference was held on July 31, 2007. No requests for a hearing having been received, the case stands submitted for decision.

---

<sup>1</sup> Administrative Case No. 2006-00045, Consideration of the Requirements of the Federal Energy Policy Act of 2005 Regarding Time-Based Metering, Demand Response, and Interconnection Service, final Order dated December 21, 2006.

In its Order in Case No. 2006-00045, the Commission stated that some large commercial and industrial customers may benefit from RTP tariffs because such customers have greater operating flexibility than smaller customers and the cost of implementing real-time pricing may be cost effective for them. The Commission acknowledged, however, that the potential of commercial and industrial RTP programs had not been adequately investigated. Therefore, we directed Big Rivers Electric Corporation, East Kentucky Power Cooperative, Inc. (“EKPC”), Kentucky Utilities Company (“KU”), and Louisville Gas and Electric Company (“LG&E”) as well as Kentucky Power to develop voluntary RTP programs for their large commercial and industrial customers that would operate for an initial term of 3 years and submit them to the Commission for review on or before April 20, 2007. Each company has complied with this directive.<sup>2</sup> Duke Energy Kentucky, Inc. was exempt from this requirement because it already offers an RTP tariff to its commercial and industrial customers.

#### Summary of the Kentucky Power Pilot RTP Program

The pilot RTP program will be available to customers on Kentucky Power’s Quantity Power (“QP”) Tariff and its Commercial & Industrial Power Time of Day (“CIP TOD”) Tariff. Both tariffs provide for on-peak and off-peak pricing. While Kentucky Power states there are 106 potential participants, it proposes to limit the pilot RTP

---

<sup>2</sup> Case No. 2007-00161, Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for an Order Approving a Large Commercial and Industrial Real-Time Pricing Tariff, filed April 20, 2007; Case No. 2006-00164, Notice of Amendments to Existing Tariffs of Big Rivers Electric Corporation and Kenergy Corp. to Implement a Voluntary Real-Time Pricing Pilot Program for Large Commercial and Industrial Customers, filed April 20, 2007; and Case No. 2006-00165, Application of East Kentucky Power Cooperative, Inc. for an Order Approving a Pilot Real-Time Pricing Program for Large Commercial and Industrial Customers, filed April 20, 2007.

program to 10 customers. It states that all eligible customers will be provided notice of the program and that the participants will be chosen on a first come basis.<sup>3</sup>

The proposed program will be a market-based, hourly RTP program in which the customers will have the opportunity to manage their electric costs by shifting load periods. Participating customers will choose the amount of load they are willing to have subject to standard tariff pricing with the remaining load for any given period subject to real-time pricing. All usage less than or equal to the designated demand level will be billed at standard tariff rates. All usage above the designated demand level will be billed at real-time rates. A customer's total bill will be the sum of the standard tariff calculation and the RTP calculation.

The real-time price will be based on the real-time prices established within the PJM Interconnection, LLC ("PJM") Regional Transmission Organization ("RTO") market which are readily available from PJM and will consist of the following charges:

Capacity Charge. The capacity portion of the bill will be based on the annual PJM Reliability Pricing Model auction price for the PJM planning year. A class average diversity factor will be applied and updated annually. A demand loss factor will be applied to determine the price at the customer's service voltage level. A reserve margin factor will be applied to reflect the fact that PJM requires reserve capacity be held for reliability purposes for each customer. The reserve margin factor will be updated annually. The capacity charge will be applied to the customer's billing demand under the appropriate tariff in excess of the designated portion of load served under the standard tariff.

---

<sup>3</sup> Kentucky Power's Response to Staff's First Request for Information, Item 2(d).

Energy Charge. The rate applied to the energy portion will be based on the real-time hourly locational marginal price (“LMP”) for the American Electric Power (“AEP”) load zone which will include marginal losses determined by PJM. Therefore, the LMP must be adjusted to reflect only fixed losses for secondary and primary levels. The energy charge will be applied to the customer’s usage in excess of the designated level for each billing period.

Transmission Charge. This rate will be based on the Network Integration Transmission Service rate for the AEP East Zone set forth in the PJM Open Access Transmission Tariff (“OATT”). The OATT will be adjusted by a class average diversity factor and a demand loss factor. The diversity factor will be updated annually. The transmission charge will be applied to the customer’s highest demand in excess of the designated portion of the load served under the standard tariff. The customer’s highest demand will equal the on-peak demand plus any off-peak excess demand for customers under Tariff QP or will equal the higher of the on-peak or off-peak demand under Tariff CIP-TOD.

Other Market Services Charge. This rate was developed by using all other PJM market costs allocated to Kentucky Power not captured elsewhere. These include charges for black start capability, synchronous condensing, reactive supply, regulation, spinning reserves, net congestion, operating reserves, transmission owner scheduling charges, point to point revenue credits, PJM expansion cost recovery, RTO formation cost recovery, amortization of PJM RTO integration costs, and PJM administrative charges. The other market services rate will be updated annually. This rate will be applied to all energy usage in excess of the designated portion for each billing period.

Distribution Charge. This rate reflects the distribution portion of the current tariff and only applies to customers taking service at the primary and secondary voltage levels. The rate was set at the average distribution facilities cost developed in the last rate case and will remain the same until the Commission approves a rate change in Kentucky Power's next general rate proceeding. The distribution charge will be applied to the customer's monthly billing demand in excess of the designated portion.<sup>4</sup>

Kentucky Power has not developed a budget, but has stated that the cost to revise the Customer Communication System ("CCS") alone will be about \$100,000. Kentucky Power proposes to charge participants \$150 per month to recover some incremental costs and to reduce possible barriers to participation. Kentucky Power proposes to track all incremental costs associated with this program and seek recovery of all costs not recovered from the Program Charge in the next rate proceeding.

Kentucky Power proposes a 3-year trial period, but will allow participating customers to remain in the program until the Commission has evaluated the program and determined whether it should continue. No new customers will be accepted after the end of the 3-year period until the Commission has completed its evaluation. Customers must enroll by May 15, 2008 and continue service for the entire planning year. Customers that do not re-enroll are ineligible to return.

---

<sup>4</sup> The following is another way to show the method of billing:

RTP portion of bill = capacity charge  
+ energy charge  
+ transmission charge  
+ other market services charge  
+ distribution charge  
+ program charge

Also subject to any current or future non-generation related riders.

Kentucky Power states it will need 4 to 6 months after Commission approval to implement the program and proposes to start no sooner than June 1, 2008 to coincide with PJM's planning years.

Kentucky Power will provide annual reports:

1. Showing the range and frequency of hourly integrated AEP-zone LMP for a 12-month period.
2. Showing the range and frequency of the customer's 15-minute usage profile.
3. Showing the variance of day-ahead and real-time AEP-zone LMP.
4. Including a spreadsheet designed to calculate estimated standard and RTP billings.
5. And, any other reports that may be required.

Kentucky Power proposes to submit annual reports 90 days after the end of each plan year (May) and a final report 6 months after the end of the pilot.

### Discussion

The AG sees no benefits to participants under Kentucky Power's program and recommends the Commission disapprove Kentucky Power's application. The AG states that he does not wish his comments and participation in this proceeding to be construed as acquiescing to the inclusion of any administrative costs in a future rate case. Kentucky Power argues that its proposal to implement this program is the result of the Commission's directive in response to the Energy Policy Act of 2005. As such, it believes that the costs are recoverable and should be assigned to the appropriate customer classifications. It acknowledges that Commission approval is required for deferral of the implementation costs and plans to seek such approval if the program is approved.

The Commission agrees with Kentucky Power's assertion that it is implementing this program at the direction of the Commission and that approval for deferral is required. We find that Kentucky Power should be allowed to defer the unrecovered costs for consideration in the next general rate case. By allowing deferral, Kentucky Power will have the option of currently expensing costs or deferring them for consideration later. Kentucky Power is placed on notice, however, that the reasonableness of each deferred expense and the disposition of the deferral will be determined at the time of its next base rate case.

The AG notes his disappointment that Kentucky Power will not undertake any efforts to educate or inform participants on ways to reduce their energy consumption or shift their load as the Company expects participants in the program to be large, sophisticated users. The AG argues that communication of successful energy saving strategies provides benefits not only to participants but also can be disseminated to non-participants providing benefit to that group as well. He urges the Commission to require Kentucky Power to clearly advise participants of the opportunities of the pilot program and provide ongoing support to assist participants in their efforts to reduce and/or shift their demand so that successful techniques to reduce and/or shift demand can be disseminated among both participants and non-participants in order to maximize any benefits under the program.

In response to this concern, Kentucky Power states that it will publicize the program to all eligible customers and that customer representatives will meet and work with any interested, eligible customer to explain the program and to offer assistance in evaluating any modifications required for participation.<sup>5</sup> Kentucky Power states that

---

<sup>5</sup> Kentucky Power's Response to Staff's First Request for Information, Item 2(d).

detailed information will also be provided on a customer-specific basis. It expressed concern with the AG's suggestion that it share customer information with other customers, but offered to set up meetings wherein the participating customers could share energy-saving strategies.

Kentucky Power does not agree to the AG's request that it educate non-participants. It asserts that the broader educational program suggested by the AG is not appropriate for a pilot program and is beyond the goals set out in the Commission's directive.

The Commission finds that Kentucky Power's proposed plan for customer assistance and education is reasonable.

The AG was also troubled by the fact that Kentucky Power did not initially provide any estimates of its costs associated with the program. However, at the informal conference, Kentucky Power stated that the cost of modifying the CCS, which will represent the majority of the program costs, could be approximately \$100,000. This amount is nearly twice the \$54,000 in fees that will be recovered through the \$150 Program Charge over the 3-year period if the program enrolls the maximum number of participants.<sup>6</sup> Kentucky Power asserts, therefore, that the \$150 charge is reasonable and is set at a level that should not inhibit customers from participating in the pilot program.

Kentucky Power proposes to calculate the program costs at the end of the program and compare the recoveries received from customers to the actual incremental costs incurred to implement the program and feed back to customers any over- or

---

<sup>6</sup> This amount is calculated by multiplying 10 (participating customers) x 12 (months) x \$150 (monthly program cost) x 3 (years).

under-recoveries pursuant to a future order of the Commission. Kentucky Power also offered to work with Commission Staff and the AG to develop an appropriate fee based on the actual pilot program approved.

The Commission finds that the \$150 Program Charge is acceptable; however, the Commission is concerned that the level of incremental costs not recovered by this charge at the end of the 3-year pilot will equal or exceed the total amount of funds generated by the charge. As previously stated, if Kentucky Power elects to defer the unrecovered costs, the reasonableness of each deferred expense and the disposition of the deferral will be determined at the time of its next base rate case.

The AG is also concerned that Kentucky Power may over-recover its energy costs as a result of the program. He states that since Kentucky Power buys and sells the power it generates in the PJM power market, it would be possible for it to sell the power into the PJM market that it normally would have supplied to the program participants, pass through all its costs of purchasing the power designated by participants as subject to the tariff, and realize additional revenues. If the Commission approves the program, the AG recommends Kentucky Power be required to offset the program costs with associated revenues from selling the power normally supplied to participants.

Kentucky Power states that the AG's concern regarding over-recovery by Kentucky Power is misplaced since Kentucky Power has in place a system sales tracker that flows back system sales profits to the customer. It states that in any event, it is likely to prove difficult to link any particular off-system sale to power and energy that is made subject to real-time pricing. In addition, the power purchased to serve participants would not be included in its fuel adjustment clause and the environmental

surcharge and system sales charges would not be affected in a material amount by the pilot program.

The Commission finds that Kentucky Power should not experience over-recovery of costs since its system sales tracker flows system sales profits back to the customer. The AG also expresses his concern that Kentucky Power is not using the Customer Baseline Load Approach (“CBL”) in its program. The AG notes that the approach utilized is revenue neutral to Kentucky Power since all embedded costs associated with the power provided are passed through to participants; however, it is not designed to be cost neutral to participants. According to the AG, financial rewards for the efforts of participants to reduce their energy usage are significantly muted or nonexistent under the program regardless of participants’ ability to lower overall usage. He believes that negotiations with participants to develop an appropriate CBL are important components to ensure the success of any proposed program and is confused by the Company’s position in this regard. The AG points out that Kentucky Power admits that PJM power costs are significantly higher than the standard tariff over 90 percent of the time and, therefore, participants could see substantial cost increases from this program while cost decreases would be much more difficult to achieve. The AG argues that it appears the power usage of typical large industrial and commercial participants would not fit that profile (high demand spikes; i.e., high demand with little associated usage) of customers Kentucky Power says might benefit from the program.

This profile, according to Kentucky Power, may benefit participants since the demand charge is much lower under the proposed tariff even though the energy charges are significantly higher and that more savings could result if a customer lowers its overall demand. For high load factor customers, it may not be beneficial to

participate. They are using power evenly throughout the time period and thus are less likely to be able to shift their usage pattern to put more usage off-peak. Lower load factor customers, on the other hand, may benefit if they can modify their usage pattern to reduce their peak load or move load to off-peak time periods which is the intent of the program. They also would generally have more of an opportunity to change their usage patterns. A participant's ability to react to real-time prices and obtain benefits from the pilot program is enhanced by the fact that unlike other utilities subject to the Commission's Order, Kentucky Power, through its parent AEP, is a member of PJM. As a result, the derivation of real-time prices charged to customers is transparent.

Kentucky Power responds to the AG's concern regarding its decision not to use a CBL approach by acknowledging that the Commission did not direct the companies to implement a particular type of program. Kentucky Power argues that by allowing flexibility in designing programs, the Commission freed the companies to use their company-specific experience to develop programs that provide their customers with appropriate pricing signals while avoiding the allocation of additional costs to other customers. In addition, Kentucky Power argues the deployment of both CBL programs and Kentucky Power's model will provide the Commission with additional information it otherwise would lack.

The Commission finds Kentucky Power's decision not to use a CBL mechanism in its program acceptable. Although other utilities have proposed using a CBL mechanism, they have designed different RTP mechanisms and are using the CBL for

different reasons.<sup>7</sup> The Commission did not require the utilities to develop specific programs or include specific parameters. We find that Kentucky Power's model will provide additional information that may not be available if Kentucky Power was required to utilize a CBL.

In other comments, the AG expressed concern about the likelihood that Kentucky Power would have any large commercial and industrial customers that would have a load profile ("high demand spikes with little energy usage") that could benefit from Kentucky Power's program. The Commission also shares this concern; however, Kentucky Power believes that it has customers with that profile.

Finally, the AG sets forth 10 items he believes Kentucky Power should track and include in the annual reports it proposed to file with the Commission. The AG states that the annual reports should contain, at a minimum, the following information:

- (1) The current number of program participants.
- (2) The type of industry or primary business activity of each participant.
- (3) The number of participants that have withdrawn from the program and the reason for such withdrawal.
- (4) and (5) The average, minimum and maximum monthly electrical usage and cost for program participants during each 12-month reporting period and the 12-month period immediately preceding enrollment into the program.
- (6) All comments and suggestions solicited from program participants.
- (7) An evaluation of the program's effect on Kentucky Power's peak and/or base demand as compared to its historical data for the 12-month period immediately preceding implementation of the program.

---

<sup>7</sup> LG&E and KU are using a CBL that is adjusted monthly to reflect actual consumption in order to be bill neutral. EKPC's CBL is based on historic usage but subject to change if a participant makes certain modifications. EKPC states that it is using a CBL to recover its embedded costs.

- (8) A statement by Kentucky Power of whether the program is achieving the stated objectives and an evaluation of the comments and suggestions of the program participants.
- (9) The program costs to the date of the report, along with the details of any deviations from the program budget contained in the application submitted herein; and
- (10) A cumulative comparison of the information furnished in Items 4 and 5 above to allow year-to-year comparison of program results.

The AG further suggests that such reports be distributed to all parties to this proceeding and that the reports be made a part of the record in this matter.

With two caveats, Kentucky Power has no objection to the AG's request that additional information concerning the program results be made part of the record and distributed to all parties. First, Kentucky Power asserts that the obligation to provide the identified additional information should be limited to information known to Kentucky Power. Second, Kentucky Power should be permitted to provide any usage information on an aggregated basis. If there is only one participant, Kentucky Power anticipates seeking confidential treatment for any single customer-specific usage information.

Having reviewed the record and being otherwise sufficiently advised, the Commission finds, as more fully discussed hereinabove, that Kentucky Power's proposed pilot RTP should be approved with the additional reporting requirements recommended by the AG. Since the program is significantly different from other proposed programs, it should provide the Commission with information that may not otherwise be available.

Kentucky Power has stated that it will not begin the program prior to June 1, 2008 to correspond with PJM planning year. A final report should be filed as proposed, 6 months after the end of the initial 3-year pilot period.

IT IS THEREFORE ORDERED that:

1. The pilot RTP program proposed by Kentucky Power is approved with the additional reporting requirements set forth in this Order.
2. Kentucky Power shall file annual reports by June 30 of each year that shall include, at a minimum, the 10 items requested by the AG and more fully set forth hereinabove and shall distribute a copy of each annual report to all parties to this proceeding.
3. Kentucky Power shall submit a detailed evaluation of the pilot RTP to the Commission 6 months from last date of the initial 3-year pilot and shall distribute a copy of the detailed evaluation to all parties to this proceeding.
4. Kentucky Power is authorized to establish a deferred account in which to record unrecovered costs associated with the pilot RTP program.
5. Kentucky Power shall file, within 20 days of the date of this Order, its revised tariff sheets consistent with this Order stating the date of issue and that they were issued by the authority of this Order.

Done at Frankfort, Kentucky, this 1<sup>st</sup> day of February, 2008.

By the Commission

ATTEST:



Executive Director