COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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| AN EXAMINATION BY THE PUBLIC SERVICE COMMISSION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF KENTUCKY UTILITIES COMPANY FROM NOVEMBER 1, 1996 TO APRIL 30, 1997 | ) ) ) ) ) | CASE NO. 96-523-A |

O R D E R

Pursuant to Administrative Regulation 807 KAR 5:056, Section 1(11), the Commission on July 14, 1997 established this case to review and evaluate the operation of the fuel adjustment clause ( FAC ) of Kentucky Utilities Company ( KU ) for the 6 months ended April 30, 1997. As part of this review, the Commission directed KU to submit certain information concerning its compliance with Administrative Regulation 807 KAR 5:056. On October 16, 1997, the Commission held a public hearing in this matter.[1] At this hearing, the following persons testified: Charles Caudill, KU s Director of System Operations; James Ellington, KU s Ghent Generating Station Plant Superintendent; Gerhard Haimberger, KU s Director of Fuels Management; Michael Robinson, KU s Controller; and Ronald Willhite, KU s Vice President of Regulation and Economic Planning.

[1] The Attorney General, through his Office of Rate Intervention, and Kentucky Industrial Utility Customers were permitted to intervene in this proceeding. Both appeared, through counsel, at the public hearing in this matter.

Having considered the evidence of record and having taken administrative notice of the Commission s Order of July 15, 1999, in Case No. 96-523,[2] the Commission finds that KU improperly calculated  cost of fossil fuel recovered through intersystem sales  and total system line loss components of its FAC and thus overstated its FAC adjustment factor for the review period.  We direct KU to charge off and amortize, by means of a temporary decrease of rates, $1,027,346 improperly collected through its FAC during the period under review.

## BACKGROUND

Administrative Regulation 807 KAR 5:056 permits electric utilities to establish FACs to adjust their rates to reflect changing fuel prices.   It requires that an FAC  provide for periodic adjustment per KWH [kilowatt hour] of sales equal to the difference between the fuel costs per KWH sale in the base period and in the current period.  807 KAR 5:056, Section 1(1).  It establishes an adjustment factor based upon the following formula:

| | | | |
|---|---|---|---|
| **Adjustment Factor** | **<u>Monthly Fuel Costs</u>**<br>**Monthly Sales** | **-** | **<u>Base Fuel Costs</u>**<br>**Base Sales** |

This factor, which is expressed in terms of cents per KWH, is multiplied by the customer s usage to determine his or her monthly FAC charge.  The charge, which may be positive or negative, appears as a separate line item on the customer s bill.

[2] Case No. 96-523, An Examination by the Public Service Commission of the Application of the Fuel Adjustment Clause of Kentucky Utilities Company from November 1, 1994 to October 31, 1996.

Administrative Regulation 807 KAR 5:056, Section 1, provides the following formula to determine monthly and base fuel costs:[3]

| | |
|---|---|
| **Fuel Costs ($)** | **Fuel Consumed in Utility s Own Plants**<br>**+**<br>**Fuel Cost of Purchased Power**<br>**+**<br>**Energy Cost of Power Purchased on Economic Dispatch**<br>**-**<br>**Cost of Fuel Recovered Through Intersystem Sales** |

[3] Administrative Regulation 807 KAR 5:056, Section 1(3), states:

> Fuel costs (F) shall be the most recent actual monthly cost of:
>
> (a) Fossil fuel consumed in the utility's own plants, and the utility's share of fossil and nuclear fuel consumed in jointly owned or leased plants, plus the cost of fuel which would have been used in plants suffering forced generation or transmission outages, but less the cost of fuel related to substitute generation; plus
>
> (b) The actual identifiable fossil and nuclear fuel costs associated with energy purchased for reasons other than identified in paragraph (c) of this subsection, but excluding the cost of fuel related to purchases to substitute for the forced outages; plus
>
> (c) The net energy cost of energy purchases, exclusive of capacity or demand charges (irrespective of the designation assigned to such transaction) when such energy is purchased on an economic dispatch basis. Included therein may be such costs as the charges for economy energy purchases and the charges as a result of scheduled outage, all such kinds of energy being purchased by the buyer to substitute for its own higher cost energy; and less
>
> (d) The cost of fossil fuel recovered through intersystem sales including the fuel costs related to economy energy sales and other energy sold on an economic dispatch basis.

Monthly and base sales are determined using the following formula:[4]

| | |
|---|---|
| **Sales (KWH)** | **Generation<br>+<br>Purchases<br>+<br>Interchange-In<br>-<br>Intersystem Sales<br>-<br>Total System Losses** |

Improperly calculating any element of the FAC s two components will result in an incorrect adjustment factor. Understating the cost of fossil fuel recovered through intersystem sales by failing to include the cost of fuel associated with intersystem sales line losses, for example, will increase fuel costs and thus increase the adjustment factor. Similarly, overstating total system losses will reduce sales and increase the adjustment factor.

COST OF FOSSIL FUEL RECOVERED THROUGH INTERSYSTEM SALES

In calculating its cost of fuel for each month within the review period, KU excluded from the cost of fossil fuel recovered through intersystem sales the cost of

[4] Administrative Regulation 807 KAR 5:056, Section 1(5), provides:

> Sales (S) shall be all KWH's sold, excluding intersystem sales. Where, for any reason, billed system sales cannot be coordinated with fuel costs for the billing period, sales may be equated to the sum of: (a) Generation; (b) Purchases; (c) Interchange-in; less (d) Energy associated with pumped storage operations; less (e) Intersystem sales referred to in subsection (3)(d) above; less (f) Total system losses. Utility used energy shall not be excluded in the determination of sales (S).

fuel associated with line losses[5] incurred to make such sales. In Case No. 96-523, the Commission found that this exclusion led to an overstatement of KU s fuel costs. To make an intersystem sale, an electric utility must generate not only the energy sold to a purchaser, but additional energy to cover energy losses incurred to transmit the sold amount across the utility s transmission system. When making an intersystem sale, therefore, the electric utility recovers not only the cost of fuel to produce the sold amount of energy, but also the cost of fuel to produce the energy lost in transmission of the sold amount.

Based upon a 3.1 percent line loss factor, which KU reported as the line loss factor for intersystem sales in its monthly FAC reports for this period and which the Commission determined in Case No. 96-523 as the appropriate line loss factor for KU s FAC calculations, the Commission finds that KU understated its cost of fossil fuel recovered through intersystem sales by $388,804 and thus overstated its fuel costs by that amount. The Commission s calculations are shown in Table I below.

[5] Line losses are [t]he amount of power or commodity lost between the utility s generating facilities or production source and the customers premises or any two intermediate points in the utility system. See Public Utilities Reports, Inc., P.U.R. Glossary for Utility Management 83 (1992). Some power is lost, usually in the form of heat, when transmitting the energy from the place of generation to consumption. For example, to sell 100 KW of electricity, a utility may generate 103 KW to sell 100 KW. The three additional KW represent line losses incurred when transmitting the electricity.

**TABLE I**

| Month | Reported Recovered Intersystem Fuel Cost ($) | Unreported Recovered Intersystem Fuel Cost ($)[6] |
|---|---|---|
| November 1996 | 3,860,496 | 119,675 |
| December 1996 | 2,403,647 | 74,513 |
| January 1997 | 1,421,801 | 44,076 |
| February 1997 | 1,481,809 | 45,936 |
| March 1997 | 2,122,431 | 65,795 |
| April 1997 | 1,251,897 | 38,809 |
| **TOTAL** | $12,542,081 | $388,804 |

TOTAL SYSTEM LOSSES

In calculating sales during the review period, KU used a methodology[7] that resulted in reported total system losses exceeding actual total system losses. In Case No. 96-523, the Commission held that Administrative Regulation 807 KAR 5:056, Section 1(5), permitted the use of actual line losses only to calculate the FAC sales component. As Table II shows, KU reported total system losses that exceeded its actual total system losses for every month of the review period.

[6] This amount is obtained by multiplying reported line loss for intersystem sales (.031) by reported recovered intersystem fuel cost.

[7] To determine the sales component, KU first calculates the overall system line loss for the current expense month, dividing the 12-month overall system losses by the 12-month KWH sources. The overall system line loss is expressed as a percentage. KU then multiples this percentage by the amount of KWH sources for the current expense month to obtain an overall system line loss expressed in KWH. KU next identifies the line losses associated with its wholesale and intersystem sales. Using specific line loss factors for these sales, KU calculates the line losses for wholesale and intersystem sales, expressed in KWH. Next, KU determines its retail line losses by subtracting the KWH line losses for wholesale and intersystem sales from the KWH overall system line losses. It also subtracts the wholesale and intersystem sale KWH sources from the overall KWH sources to determine a retail KWH sources. KU divides the retail KWH line loss by the retail KWH sources, resulting in a retail line loss percentage. In its final step, KU multiplies the retail line loss percentage by the total current expense month KWH sources to arrive at the system line losses that it uses to compute the sales component.

**TABLE II**

| Month | Actual Total System Line Loss (KWH) | KU s Reported Retail FAC Loss Level (KWH) | Difference Between Actual and Report Levels (KWH) |
|---|---|---|---|
| November 1996 | 89,809,734 | 105,008,077 | 15,198,343 |
| December 1996 | 86,387,569 | 98,004,933 | 11,617,364 |
| January 1997 | 90,990,107 | 99,349,001 | 8,358,894 |
| February 1997 | 76,435,024 | 84,799,168 | 8,364,144 |
| March 1997 | 75,383,251 | 83,995,368 | 8,612,117 |
| April 1997 | 68,666,977 | 75,116,942 | 6,449,965 |
| **TOTAL** | 487,672,662 | 546,273,489 | 58,600,827 |

**Source:** KU Monthly FAC Reports (Form A, Page 4)

The Commission finds that KU s failure to use actual total system losses to calculate its sales component resulted in improper FAC charges of $638,542. We derive the amount of overcharges by placing KU s reported retail line loss with the overall system line loss, which is reported in KU s monthly FAC report. The overcharges for each month of the review period are shown below.

**TABLE III**

| Month | Disallowance From Recalculation of Form A Line Loss Schedule |
|---|---|
| November 1996 | $189,476 |
| December 1996 | 85,579 |
| January 1997 | 65,553 |
| February 1997 | 92,064 |
| March 1997 | 118,352 |
| April 1997 | 87,518 |
| **TOTAL** | $638,542 |

SUMMARY

Having considered the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. When calculating the cost of fuel recovered from intersystem sales, Administrative Regulation 807 KAR 5:056 requires an electric utility to include the cost of fuel associated with line losses which it incurred to make an intersystem sale.

2. During the review period, KU failed to include the cost of fuel associated with line losses which it incurred to make an intersystem sale when calculating the cost of fuel recovered from intersystem sales.

3. During the period under review, KU reported in its monthly FAC reports that intersystem sales were subject to a line loss factor of 3.1 percent. This line loss factor should be used to determine the cost of fuel associated with line losses incurred to make an intersystem sale and recovered from such sale.

4. As a result of its failure to correctly calculate the cost of fuel recovered from intersystem sales, KU overstated its fuel costs for the period under review by $388,804.

5. When calculating the sales component of its monthly FAC charge, KU did not use actual total system losses. As a result it understated its sales and overcollected $638,542 from its retail customers through its FAC for the period under review.

6. The record reveals no evidence of any other improper calculation or application of KU s FAC charge or of any improper fuel procurement practices.

IT IS THEREFORE ORDERED that:

1. Upon filing its first monthly fuel adjustment after entry of this Order, KU shall, in calculating its monthly fuel cost, reduce actual monthly fuel cost by $1,027,346 to reflect unreported fossil fuel costs recovered through intersystem sales during the review period and the overrecovery of fuel costs resulting from its miscalculation of sales.

2. This case is closed and shall be removed from the Commission s docket.

Done at Frankfort, Kentucky, this 21st day of July, 1999.

By the Commission

ATTEST:

Executive Director