COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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In the Matter of:

GENERAL ADJUSTMENT IN)
ELECTRIC RATES OF) CASE NO. 8734
KENTUCKY POWER COMPANY)

O R D E R

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RATES OF KENTUCKY POWER COMPANY)

O R D E R

On March 31, 1983, Kentucky Power Company ("Kentucky Power") filed its notice with the Commission seeking authority to increase its rates for service rendered to its customers by $33.1 million, or 18.5 percent over normalized test period revenues, to become effective April 20, 1983. Kentucky Power stated that the additional revenue was necessary to provide it an opportunity to earn a reasonable rate of return, service its outstanding debt, attract additional capital and maintain or improve its credit ratings.

In order to determine the reasonableness of the request for additional revenues the Commission suspended the proposed rate increase until September 20, 1983. Kentucky Power was directed to give notice to its customers of the proposed rates and the scheduled hearing pursuant to 807 KAR 5:025, Section 7. Motions to intervene were filed by the Consumer Protection Division in the Office of the Attorney General ("AG"), the Kentucky Industrial Utility Customers ("KIUC"), the Office of Kentucky Legal Services Programs on behalf of several residential customers and the Concerned Citizens of Martin County ("Residential Intervenors"),

and Blue Diamond Coal Company. These motions were granted and no other parties formally intervened.

Public hearings were held in the Commission's offices in Frankfort, Kentucky, on August 2 through 5, 1983, with all parties of record represented. Briefs were filed by August 24, 1983, and responses to all data requests have been filed.

COMMENTARY

Kentucky Power is a wholly-owned subsidiary of the American Electric Power Company ("AEP") and serves approximately 142,500 customers in 20 eastern Kentucky counties. In addition to its retail customers Kentucky Power serves two municipal power systems under the jurisdiction of the Federal Energy Regulatory Commission. Most of Kentucky Power's corporate officers are also officers of AEP or other AEP subsidiaries.

This Order addresses the Commission's findings and determinations on issues presented and disclosed in the hearings and investigation of Kentucky Power's revenue requirements and rate design. Kentucky Power requested additional revenue of approximately $33.1 million and this Order authorizes rates and charges that will produce additional revenue of $4,224,020. The revenue requested in this case included more than $20 million associated with the request for a cash return on Construction Work in Progress ("CWIP") and the exclusion of Allowance for Funds Used During Construction ("AFUDC") earnings from the determination of revenue requirements. The request also included approximately $1 million in additional revenues as the return on an investment in land to be used for a future generating plant in Lewis County,

Kentucky. The Commission's denial of these requests and the $3.1 million in additional revenue disallowed due to the lower rate of return granted herein are the primary reasons that the increase granted is significantly less than the amount requested.

TEST PERIOD

Kentucky Power proposed and the Commission has accepted the 12-month period ending December 31, 1982, as the test period for determining the reasonableness of the proposed rates. In utilizing the historic test period the Commission has given full consideration to appropriate known and measurable changes.

CASH RETURN ON CWIP

One of the primary issues in this case is Kentucky Power's request to earn a cash return on the test year-end CWIP associated with the Rockport Generating Plant ("Rockport") and the Jefferson-Hanging Rock 765-KV transmission line ("transmission line"). Kentucky Power proposed to continue accruing AFUDC on the incremental CWIP added subsequent to the test year. Historically, Kentucky Power has not earned a current cash return on CWIP in its rate base, but rather, has offset the CWIP included in rate base with the accrual of AFUDC.

Essentially, there are two regulatory methods by which a utility can recover the capital costs associated with the construction of new facilities: either allow a current cash return on CWIP or permit the accrual of AFUDC which increases the installed cost of the facilities and provides a future cash return after the plant goes into service. This Commisssion has allowed Louisville Gas and Electric Company ("LG&E") and Kentucky

Utilities Company ("KU") a current cash return on CWIP while Kentucky Power has been permited to accrue AFUDC.

Kentucky Power has not requested rate-making treatment similar to that afforded LG&E and KU in that Kentucky Power has asked to continue to accrue AFUDC on CWIP additions made subsequent to the test year. Such treatment of CWIP is more favorable than the treatment afforded LG&E and KU and has no precedent in Kentucky. Historically, this Commission has allowed the utilities it regulates the option of earning a cash return on CWIP or accruing AFUDC. No utility has been permitted to employ both of these rate-making treatments simultaneously. In Case No. 6906, General Adjustment of Electric Rates of Kentucky Utilities Company, KU was permitted to discontinue the accrual of AFUDC; however no additional revenues were granted to compensate for the accounting change.

The rate-making treatment of allowing a cash return on CWIP would increase cash flow and improve Kentucky Power's financial condition while increasing the current cost to ratepayers. When there is no accrual of AFUDC this current cost increase is somewhat offset in the future by a smaller future earnings base, thereby reducing the magnitude of future rate increases. The continued accrual of AFUDC, as requested by Kentucky Power, would produce a larger earnings base which would mitigate some of the future benefit to ratepayers.

When asked whether Kentucky Power would prefer to continue to accrue AFUDC or receive a current return on CWIP without

accruing AFUDC, as LG&E and KU are permitted to do, Mr. Joseph H. Vipperman, Vice-President and Controller of the AEP Service Corporation, stated that Kentucky Power would prefer to continue accruing AFUDC without a current cash return.[1/]

The Commission finds that it would be unfair, unjust and unreasonable to require Kentucky Power's customers to pay a current cash return on CWIP while allowing Kentucky Power to continue to accrue AFUDC. Consequently, Kentucky Power's request must be denied.

Furthermore, the rate-making treatment of allowing a current cash return on CWIP is based on the assumption that since ratepayers will eventually be required to pay construction costs, it is beneficial to both the ratepayers and the utility for the recovery to start prior to completion of construction. In this case, the Commission would be unable to authorize such regulatory treatment for either Rockport or the 765-KV transmission line because there is evidence to indicate that the underlying assumption may not be correct. Regarding Rockport, the Commission has recently ordered further hearings in Case No. 8271, Application of Kentucky Power Company For a Certificate of Public Convenience and Necessity. This could result in a modification or even denial of a certificate of public convenience and necessity. Regarding the 765-KV transmission line, the Commission has recently initiated Case No. 8904, An Investigation of the Necessity and Usefulness of and the Cost Responsibility for the Hanging Rock - Jefferson 765-KV Transmission Line Under Constrution by Kentucky Power Company. It would be improper and

premature to require Kentucky Power's ratepayers to pay any construction costs associated with these projects until the Commission has concluded Case Nos. 8271 and 8904.

On June 23, 1983, the AG filed a motion requesting that any rate increase associated with Rockport-related CWIP be placed in effect subject to refund pending a final determination of Case No. 8271. On July 6, 1983, Kentucky Power filed a response objecting to the AG's motion. Based on the Commission's findings that Kentucky Power should not be allowed a current cash return on CWIP, there will be no associated rate increase. Consequently, the AG's motion is hereby overruled as being moot.

HANGING ROCK-JEFFERSON TRANSMISSION LINE

On August 12, 1983, the AG filed a motion and memorandum requesting the Commission to initiate an investigation of Kentucky Power's need for the 765-KV transmission line which was authorized to be constructed on May 17, 1974, in Case No. 6019, Application of Kentucky Power Company For a Certificate of Public Convenience and Necessity Authorizing It To Construct Additional 765-KV Transmission Facilities. The certificate authorized Kentucky Power to construct 155.1 miles of 765-KV transmission line from the Hanging Rock Station of Ohio Power Company to the Jefferson Station of the Indiana and Michigan Electric Company ("Hanging Rock-Jefferson"). The AG's motion also requested that Kentucky Power be required to show cause why the certificate issued in Case No. 6019 should not be revoked.

The AG maintains that Kentucky Power's need for the transmission line should be reviewed due to significant increases

in construction costs resulting in "a dramatic and unexplained change in the evidence which formed the basis for issuance of the certificate."[2] In 1974, Kentucky Power's Executive Vice President, Mr. Waldo S. LaFon, testified in Case No. 6019 that the estimated construction cost was $55 million and that reimbursement would be received for 95 percent of both the construction cost and operation and maintenance expenses. Mr. Robert E. Matthews, President of Kentucky Power, testified in this case that the estimated construction cost is now $123 million and that Kentucky Power would be responsible for 100 percent of both the construction cost and operation and maintenance expenses. The discrepancies regarding the recovery of these construction costs were discovered and brought to the Commission's attention by Mr. Bruce Abel, counsel for KIUC.

On August 22, 1983, Kentucky Power filed a memorandum setting forth three arguments in opposition to the AG's motion. Kentucky Power's first argument is that the AG's motion can not be considered in this case because it is inappropriate to adjudicate issues regarding certificates of convenience and necessity in a rate proceeding. See American District Tel. Co. v. Utility Regulatory Comm'n, Ky. App., 619 S.W.2d 504 (1981).

Kentucky Power's second argument is that KRS 278.020 merely prohibits a utility from beginning construction without obtaining a certificate. Consequently, Kentucky Power maintains that it would be meaningless for the Commission to revoke the certificate now that construction is substantially complete.

Kentucky Power's third argument is that it is entitled to earn a return on property properly includable in rate base irrespective of a certificate of public convenience and necessity.

On August 25, 1983, the AG filed a reply disagreeing with the arguments set forth in Kentucky Power's memorandum. The Commission is of the opinion that Kentucky Power's need for the Hanging Rock-Jefferson 765-KV transmission line and Kentucky Power's recent disclosure that it will not receive 95 percent reimbursement of the construction cost and operation and maintenance expenses are issues that should be investigated in a separate proceeding.

VALUATION

Kentucky Power presented the net original cost and capital structure as valuation methods in this case. The Commission has given due consideration to these and other elements of value in determining the reasonableness of the proposed rates.

Net Original Cost

Kentucky Power proposed a test year-end jurisdictional rate base of $445,373,406.[3/] As a part of the year-end rate base Kentucky Power proposed to include $6,392,847 of plant held for future use which represents an investment in land in Lewis County, Kentucky, for a future power plant site. The AG, through its witness, Mr. Robert Henkes, of the Georgetown Consulting Group, recommended that this investment be excluded from rate base due to its speculative nature.[4/] This land was purchased in 1977 and until August 1982 was recorded as an investment held in the name of Franklin Real Estate Company.

The transfer of this amount from the Franklin Real Estate account is conspicuous by its timing relative to the issuance of the Commission's Order in June 1982 in Case No. 8429, General Adjustment in Electric Rates of Kentucky Power Company, wherein the Commission disallowed an adjustment to include the investment in Franklin Real Estate in rate base. While Kentucky Power has testified that it has a plan for the use of this property, the fruition of this plan is questionable. The earliest possible in-service date for a generating plant at this site is 1992, and if and when a plant is built Kentucky Power will own only a partial interest in it. Given these considerations, and being mindful of the 43 percent reserve capacity of the AEP System, the Commission is of the opinion that it would be improper for Kentucky Power ratepayers to bear any costs related to this investment. Therefore, an adjustment has been made to reduce rate base by $6,302,847.

Kentucky Power proposed adjustments to reflect the depreciation expense adjustment in the accumulated provision for depreciation and to reflect its proposed expense adjustments in the calculation of the allowance for cash working capital.[5] The Commission concurs with the adjustment to the accumulated provision for depreciation and has modified the adjustment to working capital to reflect the pro forma operating expenses allowed herein.

The AG proposed to reduce Kentucky Power's proposed rate base by the amount of accounts payable associated with CWIP and Materials and Supplies at the end of the test year. Mr. Henkes

stated that "such payables essentially represent a semi-permanent type of financing by the Company's vendors (not investors) because such payables continually exist."[6/] The Commission agrees that accounts payable are a temporary, cost-free source of funds; however, the Commission is concerned with Kentucky Power's total investment and capital requirements, not just its accounts payable. Without an analysis to determine overall capital requirements, it is neither appropriate nor meaningful to isolate Kentucky Power's accounts payable to determine its rate base. Therefore, the Commission has not accepted the AG's proposal.

The AG also proposed to reduce Kentucky Power's rate base to eliminate the amounts of CWIP financed through contributions or for which Kentucky Power would be reimbursed by others.[7/] The question of CWIP financed through contributions was settled by Kentucky Power's correction of a schedule on which CWIP had erroneously been increased rather than decreased for the amount of contributions received.[8/] The Commission is of the opinion that the concept of the AG's adjustment to construction work for which Kentucky Power would be reimbursed has merit; however, absent an analysis of the ongoing balances in this account and the long-term level of reimbursements made to Kentucky Power, the proposed adjustment is not sufficiently known and measurable to be acceptable for rate-making purposes.

The AG proposed an adjustment to reduce the rate base by $3,659,035 to reflect a reduction to Kentucky Power's coal inventory from the year-end level of 594,645 tons to 510,000 tons, the approximate average of the past 5 years. The AG also endorsed

Kentucky Power's proposal to price its inventory at the average price per ton for purchases made during the last month of the test year, December 1982. Mr. Henkes, who sponsored the adjustment, stated that this was consistent with the Commission's position in Kentucky Power's most recent rate case.[9/] In that case the Commission stated:

> . . . the Commission will review the level and value of fuel inventory on a case-by-case basis and determine whether an adjustment is appropriate. In adjusting the fuel inventory the Commission will use the weighted average cost per ton of coal at the end of the test period to adjust the cost of the additional supply required or the reduction in cost required.[10/]

The Commission has not established a fixed value of inventory based on average purchases during the last month of the test period, contrary to what Mr. Henkes indicated. In this proceeding the Commission has reviewed and evaluated the year-end coal inventory and has determined that no adjustment is necessary. Also, as stated in the prior case, the Commission has priced the inventory at the weighted average inventory cost per ton at the end of the test year. Although the level of coal inventory has not been adjusted the Commission is concerned that Kentucky Power's target coal inventory level of approximately 644,000 tons or a 75-day supply,[11/] was determined only by the experience of the American Electric Power System,[12/] as evidenced by Kentucky Power's monthly coal status graph.[13/] Furthermore, it appears that Kentucky Power does not consider the relevant costs associated with its coal inventory in the determination of its target coal inventory level. The Commission acknowledges the

steps taken by Kentucky Power to manage its coal inventory but there is room for improving its management effort. In particular, the Commission expects Kentucky Power to develop a formal cost-benefit analysis of its coal inventory level (inventory model) and to incorporate such an analysis into future rate applications in support of its target coal inventory level.

All other elements of the net original cost rate base have been accepted as proposed by Kentucky Power. The net original cost rate base devoted to Kentucky jurisdictional electric service is determined by the Commission to be as follows:

Utility Plant in Service	$449,481,863
Construction Work in Progress	106,579,639
Plant Held for Future Use	83,247
Total Utility Plant	$556,144,749
Add:	
Materials and Supplies	$ 33,762,026
Prepayments	160,637
Cash Working Capital	19,290,787
Dumont Test Site	445,710
Subtotal	$ 53,659,160
Less:	
Accumulated Depreciation	$116,823,309
Customer Advances and Deposits	3,837,631
Accumulated Deferred Taxes	50,296,326
Subtotal	$170,957,266
Net Original Cost Rate Base	$438,846,643

Capital Structure

Kentucky Power proposed adjustments to its test year-end capital structure to exclude its investment in property held in the name of Franklin Real Estate and to exclude its investment in non-utility property. Kentucky Power also proposed adjustments to

reflect the repricing of its coal inventory at the average December 1982 purchase price and to reflect its proposal to allow a cash return on CWIP. The resulting adjusted jurisdictional capital structure of $439,526,332 reflected capital ratios of 54.26 percent long-term debt, 9.66 percent short-term debt and 36.08 percent common equity.[14/] Mr. James A. Rothschild of the Georgetown Consulting Group, witness for the AG, recommended a hypothetical capital structure with ratios of 50 percent long-term debt, 5 percent short-term debt and 45 percent common equity.[15/] Mr. Rothschild stated in his prepared testimony that Kentucky Power's capital structure contained too much debt and his proposed capital structure was a step toward the 50 percent debt, 10 percent preferred stock and 40 percent common equity ratios Kentucky Power would try to achieve in the future.[16/] At the hearing, Mr. Rothschild stated that his proposed hypothetical capital structure would be more costly to ratepayers in the short-run and that it might take from 10 to 20 years for the lower cost of the hypothetical capital structure to be realized.[17/]

The Commission has accepted the adjustments proposed by Kentucky Power to exclude the non-utility property and the property held in the name of Franklin Real Estate. However, the Commission has not accepted Kentucky Power's remaining adjustments to the year-end capital structure.

As was stated in the Commission's Order in Case No. 8429, the objective in determining a year-end rate base is to establish the value of investment in utility property at a specific point in time.[18/] Repricing the entire coal inventory at the year-end

purchase price in effect results in going beyond this specific point in time, which is established by the test period. The Commission continues to be of the opinion that pricing the coal inventory at the year-end weighted average cost results in the best match of revenues, rate base and capitalization and, absent persuasive evidence to the contrary, has not accepted the adjustment to reprice the coal inventory at the year-end purchase price.

Kentucky Power proposed, as its final adjustment to capital, to eliminate the CWIP subject to AFUDC accrual and then add back the CWIP associated with Rockport and the transmission line.[19/] The purpose of this adjustment was to include in capital only the CWIP on which a cash return was being requested, namely, the Rockport and transmision line CWIP. The requested cash return on the Rockport and transmission line CWIP has not been allowed, and therefore, the proposed adjustment to capital is unnecessary and has not been accepted.

The Commission has given careful consideration to Mr. Rothschild's hypothetical capital structure and is of the opinion that it should not be adopted for rate-making purposes. The hypothetical capital structure would replace lower cost debt capital with relatively higher cost equity capital and would unduly increase the cost of capital to the ratepayer. In recent electric utility rate cases the Commission has determined that common equity ratios of 38.1 percent and 39.46 percent were reasonable[20/] and Kentucky Power's year-end common equity ratio of 36.23 percent is certainly comparable.

Taking into consideration the accepted adjustments the Commission has determined Kentucky Power's jurisdictional capital structure for rate-making purposes to be as follows:

	Amount	Percent
Long-term Debt	$236,318,547	54.48
Short-term Debt	40,297,344	9.29
Common Equity	157,155,304	36.23
Total	$433,771,195	100.00

In determining the capital structure the Commission has used the actual year-end capital ratios. The JDIC of $27,344,583 has been allocated to each capital component on the basis of the ratio of each component to total capital structure excluding JDIC. In accordance with the determination in the previous section regarding the Lewis County plant site, the Commission has reduced Kentucky Power's capital structure by $6,320,847. This reduction has been allocated to the capital structure based on the existing ratios of the capital structure components.

REVENUES AND EXPENSES

During the test year Kentucky Power had Kentucky jurisdictional net operating income of $44,512,841. In order to reflect more current operating conditions, Kentucky Power proposed several adjustments to its test period revenues and expenses which resulted in adjusted net operating income of $41,351,529.[21/] The Commission is of the opinion that the proposed adjustments are generally proper and acceptable for rate-making purposes with the following exceptions:

Sales Growth

Kentucky Power did not propose an adjustment to reflect growth in sales above the test year level. However, Mr. Henkes did propose an adjustment to revenues and expenses based on customer growth experienced during the test year. Mr. Henkes also recommended that the Commission require Kentucky Power to perform sales normalization adjustments to reflect sales levels under "normal" weather and economic conditions.

The Commission is of the opinion that Mr. Henkes' proposed adjustment to reflect customer growth has not been adequately supported. Mr. Henkes' adjustment does not recognize any customer shifts between rate classes nor does it reflect whether changes in usage patterns or load characteristics have been considered. Furthermore, the proposed adjustment reflects only increases in fuel and customer service expenses while giving no recognition to other operating expenses that could be affected by increased sales to additional customers. Although the Commission endorses the intent of Mr. Henkes' adjustment, his methodology is not acceptable.

The Commission finds no compelling reason to require Kentucky Power to make sales normalization adjustments based on "normal" weather and economic conditions. Kentucky Power's test year retail sales declined only 1.6 percent from the previous year, a year in which sales reached the highest level in Kentucky Power's history. The objective of a sales normalization adjustment is to reflect a reasonable level of sales on which to base rates and in this instance the AG has failed to show that the

test year level of sales was abnormal or unreasonable. The Commission is of the opinion that, considering the state of the economy and current trends of reduced annual load growth in the electric utility industry, the type of adjustment the AG is recommending would not be sufficiently known and measurable and therefore would not be appropriate for rate-making purposes.

Major Storm Damage Expense

During the test year Kentucky Power incurred $260,518 in expense for repairs due to major storm damage. The AG proposed an adjustment to reduce this expense to a normalized level based on Kentucky Power's historical expense levels. To calculate this adjustment Mr. Henkes used the same constant dollar index utilized by Kentucky Power in determining its proposed adjustment to plant maintenance expense and calculated an average annual expense, in current dollars, of $85,567. After applying a jurisdictional factor of .990 Mr. Henkes proposed an adjustment to reduce the expense by $173,201.[22/]

While the test year expense level of $260,518 was the greatest incurred by Kentucky Power since 1975 when it began grouping storm-related costs for reporting purposes, the Commission is of the opinion that Kentucky Power's internal labor cost should not be included in determining the adjustment. Kentucky Power's witness, Mr. C. R. Boyle, Accounting Manager and Assistant Treasurer, testified that, "They are not incremental costs . . . They are [for] people that are on the payroll before the storm occurs and are on the payroll after the storm occurs."[23/] Furthermore, there is no evidence in the record which

reflects that Kentucky Power's total labor cost was higher due to the level of major storm damage expense incurred during the test year.

Excluding Kentucky Power's internal labor cost the amount of test year storm damage expense was $53,652 and its average annual expense, in current dollars, is $26,398. This modification of Mr. Henkes' proposal results in an adjustment, for Kentucky jurisdictional operations, to reduce operating expenses by $26,981 for rate-making purposes.

Big Sandy Plant Maintenance Expense

Kentucky Power proposed an adjustment of $1,350,089 to increase Kentucky jurisdictional production plant maintenance expense to a "levelized" amount. The effect of the proposed adjustment is to reflect a total of $10.7 million of production plant maintenance expense for determining revenue requirements. Mr. Herbert Bissinger, Assistant Manager - Plant Maintenance Division of the American Electric Power Service Corporation, sponsored this adjustment and explained that the purpose of the adjustment was to levelize the test year expense in order to render it representative for purposes of designing rates.[24]

In calculating the proposed adjustment Kentucky Power adjusted the actual maintenance expenses for the period from 1970 through 1982 to reflect 1982 dollars and then developed a regression line of those expenses. This methodology was intended to reflect an ongoing level of expense and eliminate the over- or under-recovery that could occur if rates were based on an abnormally high or low test year level of expense.

In analyzing the proposed adjustment, the Commission's primary concern is that a reasonable level of cost associated with production plant maintenance be included in Kentucky Power's revenue requirements. Kentucky Power's average annual maintenance expense for the past 13 years is $6.1 million while the average expense for that period, restated in 1982 dollars, is $9 million annually. For the 5 most recent years, including the test year, Kentucky Power's average annual maintenance expense is $8.9 million and never has Kentucky Power incurred an annual level of production plant maintenance expense as great as the $10.7 million it proposes in this proceeding. Furthermore, after adjusting to 1982 dollars, only 2 of the past 13 years reflect expense levels as great as $10.7 million.[25]

Mr. Bissinger testified that the age of the plant and increased environmental, health, and safety standards have contributed to recent increases in maintenance expense and these items were factored into the determination of Kentucky Power's ongoing maintenance expense through the use of the regression line.[26] No evidence was introduced demonstrating the impact of these factors on the regression analysis, nor does the proposed adjustment attempt to quantify the portions of the test year expense related to cyclical maintenance, ongoing maintenance, or extraordinary maintenance. Considering the types of unscheduled maintenance required from time to time, such as the test year maintenance required due to the problems with the force draft fan at Kentucky Power's Big Sandy Unit No. 2, the Commission is of the opinion that an adjustment to normalize or levelize power plant

maintenance expense should address each type of maintenance individually.

In Case No. 8429 Kentucky Power was allowed to include its test year plant maintenance expense of approximately $10.2 million in the determination of revenue requirements. With $9.3 million in expense during the test year in this case, it could be argued that Kentucky Power has over-recovered its expense by $900,000. However, as was pointed out during the cross-examination of Mr. Bissinger, for as long as Kentucky Power continues to seek rate relief on a frequent basis any over- or under-recovery of production plant maintenance expense should be short-lived and easily adjusted in the following rate proceeding. Kentucky Power is currently in an off-peak period regarding its cyclical maintenance and will not reach its cyclical peak until 1985, by which time it will have almost certainly filed another rate application with the Commission. Under these circumstances, the Commission is of the opinion that the proposed adjustment does not render the test period expense representative for rate-making purposes but projects a level of expense not likely to be incurred during the period the rates granted herein will be in effect. For the reasons listed herein, the Commission has not accepted the adjustment proposed by Kentucky Power for production plant maintenance expense but will allow for rate-making purposes the test year expense of $9,336,274.

Employee Related Expenses

Kentucky Power originally proposed an adjustment of $1,110,467 to annualize its test year-end employee compensation

expenses. In response to the AG's and the Commission's data requests, Kentucky Power made several changes in its calculations which reduced the proposed adjustment to $911,087. The Commission has made an additional adjustment to reflect a revision in the calculation of federal unemployment tax expense. The need for this revision was pointed out by the AG at the public hearing. This revision reduces the adjustment by an additional $1,293 to $909,794 which is the amount included in the determination of Kentucky Power's revenue requirements.

The adjustment allowed herein reflects compensation levels as of December 1982 at which time Kentucky Power froze salaries and wages in response to eocnomic conditions existing at that time. The Commission is encouraged that Kentucky Power recognized the need for such measures and took appropriate action.

Parent Company Tax Loss

Historically, AEP has generated significant tax losses which are allocated to the AEP subsidiaries. In previous rate cases Kentucky Power reflected these tax losses in its cost of service, thereby reducing cost of service; however, in this proceeding Kentucky Power proposed to reverse this position and not reflect its share of the AEP tax loss in its cost of service. Mr. William N. D'Onofrio, Assistant Treasurer-Treasury Staff of American Electric Power Service Corporation, stated that, "the Company's jurisdictional ratepayers have not paid for the expenses which have generated the subject tax loss. It follows, therefore, that the ratepayers should not reap the tax benefits associated with such expenses."[27]

The Commission finds Mr. D'Onofrio's argument to be unpersuasive. AEP, as a parent company, incurs little, if any, expenses unrelated to the operation of its subsidiaries. Likewise, AEP generates little revenue not related to the operation of its subsidiaries. As Mr. Gerald P. Maloney, Vice-President and Director of Kentucky Power and Senior Vice-President of the American Electric Power Service Corporation, stated,

> The total amount of dividends received by AEP from Kentucky Power and the other operating subsidiaries of the AEP System is approximately equal to the dividend that AEP, in turn, pays on its common stock plus the parent company's operating expenses. The parent company, American Electric Power Company, has no other significant source of revenue other than this dividend income.[28]

In the simplest of terms, AEP exists because of its subsidiaries, and the benefits and costs incurred by AEP flow down to those subsidiaries. It would be improper for the causer of AEP's costs, the Kentucky ratepayer, to not receive the benefits of said costs, namely the AEP tax loss. Therefore, the Commission has made an adjustment of $349,000[29] to reduce Kentucky Power's federal income tax expense to reflect the tax loss generated by AEP.

Normalization of Book/Tax Timing Differences

Mr. D'Onofrio testified that in recent years Kentucky Power has moved closer to full normalization of book/tax timing differences and in this proceeding he requested that the Commission allow Kentucky Power to complete this normalization to reflect the change to clearing accounts and uncollectible

accounts. The Commission is of the opinion that it is appropriate to normalize these timing differences and therefore has approved Kentucky Power's request to implement such accounting coincident with the issuance of this Order.

Charitable Contributions

Kentucky Power proposed an adjustment to increase operating expenses by $31,061 to reflect, in its cost of service, the expense for charitable contributions made during the test year. Mr. Boyle stated that these contributions were a necessary part of being a responsible corporate citizen and show that Kentucky Power cares about its service area.[30/] Mr. Boyle, however, did not present any substantive evidence that these contributions benefit Kentucky Power's customers. The Commission has consistently denied the inclusion of charitable contributions as an operating expense for rate-making purposes and finds that Kentucky Power has presented no evidence in this proceeding to cause a departure from this policy. Therefore, the proposed adjustment has been denied.

Capacity Equalization Charges

Both Kentucky Power and KIUC addressed the issue of capacity charges in their post-hearing briefs. Kentucky Power endeavored to point out that the capacity charges were a requirement of membership in the AEP System pool and that this cost was outweighed by the many benefits Kentucky Power receives as a member of the pool. KIUC argued that, in light of testimony presented in this case concerning Kentucky Power's ability to meet its capacity needs through the purchase of 5-year firm power, only

the test year expense should be allowed without an adjustment to normalize the increase in cost incurred during the test year.[31/]

The Commission is not persuaded by KIUC and will allow the adjustment proposed by Kentucky Power. However, as Kentucky Power's expense for capacity charges continues to increase the Commission will continue to monitor these charges, as well as the other costs incurred by Kentucky Power due to its membership in the AEP pool. The Commission will also monitor the economic benefits of Kentucky Power's membership in the pool to insure that Kentucky Power and its ratepayers continue to benefit from its membership.

Interest on Customer Deposits

Kentucky Power proposed to reflect interest on customer deposits in the cost of service as an above-the-line item. This is consistent with the treatment of this expense in previous cases and insures the recovery of this cost. None of the intervenors objected to this proposal; however, the AG recommended that this item be classified as a non-operating expense for purposes of calculating cash working capital.[32/] The Commission is of the opinion that interest expense, by its very nature, should not be included in the determination of cash working capital, and therefore, has implemented the AG's recommendation. Although the test year interest expense of $182,516 is reflected as an operating expense in Kentucky Power's income statement, it has not been included in the determination of cash working capital.

Adjustment to AFUDC

Based on its request to receive a cash return on CWIP, Kentucky Power proposed an adjustment to reflect no AFUDC as income on its pro forma operating statement. Inasmuch as the request has been denied, the Commission, in accordance with past policy, has adjusted AFUDC based on the overall rate of return allowed herein and the test year-end balance of CWIP subject to AFUDC. This results in an adjusted level of AFUDC of $13,050,005 which reflects an increase of $3,488,167.

Interest Synchronization

Kentucky Power proposed an adjustment to reduce state and federal income taxes by $3,950,136 to reflect the pro forma increase in annual interest expense. In determining the amount of the adjustment Kentucky Power applied long-term and short-term debt interest rates of 10.39 percent and 13.17 percent, respectively, to the adjusted level of these capital components exluding any allocation for JDIC. Kentucky Power contends that the Commission's practice of assigning JDIC to all components of the capital structure and treating the interest cost associated with JDIC debt capital as a deduction in computing federal income tax expense may violate the requirements of the IRS regulations regarding the job development credit. As support for its position, Kentucky Power cited the July 29, 1983, opinion of the Kentucky Court of Appeals, which upheld the Franklin Circuit Court in its ruling against the Commission on the JDIC issue in the case of Continental Telephone Company v. Public Service Commission, Civil Action No. 81-CI-1461 (1982). However, as a final ruling

has yet to be made in that proceeding, the Commission does not consider the ruling of the Franklin Circuit Court to establish a binding precedent at this time.

The Commission finds Kentucky Power's argument to be unpersuasive and is of the opinion that its treatment of JDIC is consistent with IRS Regulation 1.46-6(3) which requires that JDIC receive the same overall return allowed on common equity, debt and preferred stock equity. The regulation requires that JDIC be treated as though it were provided by preferred shareholders, common shareholders and creditors. The Commission is of the opinion that its treatment of JDIC complies with these requirements. Therefore, in accordance with its past practice the Commission has determined the adjustment by applying the embedded cost rates applicable to long-term debt and short-term debt to the JDIC allocated to the debt components of the capital structure.

Using the adjusted capital structure allowed herein, the Commission has computed, for state income tax purposes, an interest adjustment of $2,648,798 and a reduction in taxes of $158,928. For federal taxes, the Commission has computed interest net of the Allowance for Borrowed Funds Used During Construction ("ABFUDC") since Kentucky Power is now normalizing the federal income tax effect of ABFUDC. Using the year-end balance of CWIP subject to ABFUDC of $65,998,838 the Commission has computed an interest adjustment of $1,966,412 and a reduction in income taxes of $831,443.

Based on its requested cash return on CWIP Kentucky Power proposed an adjustment to increase deferred federal income taxes

by $77,680 to reflect a decrease in AFUDC feedback. Since the Commission has allowed Kentucky Power to continue to accrue AFUDC rather than earn a current cash return on CWIP no AFUDC feedback adjustment is necessary, and therefore, the adjustment proposed by Kentucky Power has not been accepted.

After applying the combined state and federal income tax rate of 49.24 percent to the accepted pro forma adjustments, the Commission finds that operating income should be increased by $8,172,236 to $52,685,077.

The adjusted net operating income is as follows:

	Actual Test Year	Adjustments	Adjusted Test Year
Operating Revenues	$170,362,763	$ 8,377,585	$178,740,348
Operating Expenses	135,411,760	3,693,516	139,105,276
AFUDC Offset	9,561,838	3,488,167	13,050,005
Net Operating Income	$ 44,512,841	$ 8,172,236	$ 52,685,077

RATE OF RETURN

Kentucky Power's embedded cost of long-term debt for the end of the test year was 10.39 percent. The embedded cost of short-term debt for the end of the test year was 13.17 percent. Mr. Rothschild proposed to use a 12 percent cost for short-term debt because the embedded cost was unrealistically high.[33/] At the hearing Kentucky Power updated its calculation of the embedded cost of short-term debt through June 30, 1983, and arrived at a 12-month average cost of short-term debt of 10.77 percent.[34/] The Commission is of the opinion that the 10.39 percent embedded cost

of long-term debt and the 10.77 percent cost of short-term debt are reasonable.

Mr. Charles A. Benore, First Vice-President and member of the board of directors of Paine Webber Mitchell Hutchins, Inc., witness for Kentucky Power, recommended a return on common equity for Kentucky Power of 17.5 percent based on his professional judgment, the risk premium test, and a discounted cash flow ("DCF") comparison with industrial common stocks.35/ Mr. Benore determined the risk premium between long-term U.S. government bonds and AEP common equity to be 6 to 6.5 percentage points, based on a study by Ibbotson and Sinquefield and a survey taken by Paine Webber.36/ Adding those risk permiums to an expected 11 percent return on long-term U.S. government bonds produced a required return of 17.0 to 17.5 percent.37/ Mr. Benore also performed a DCF analysis on the Standard & Poor's ("S&P") 400 Industrials because AEP has to compete against industrials for investor's capital. Using the growth rate in nominal Gross National Product as a guide and the sustainable earnings growth ("b x r") method, Mr. Benore developed a growth rate of 11.5 percent for his DCF analysis.38/ Applying the 11.5 percent growth rate to a current yield of 4.5 to 5.4 percent produced a required return on S&P 400 common equity of 16.0 to 16.9 percent.39/ Mr. Benore also calculated a 17.2 to 19.2 percent DCF-determined cost of equity for Moody's 24 electric utilities and indicated that this test confirmed that AEP's and Kentucky Power's cost of common equity was 17.5 percent.40/

Mr. Benore's testimony has some serious limitations. In his risk premium analysis he based his 11 percent return on long-term U.S. Government bonds on an estimated 7 percent core inflation rate and a 4 percent real return.[41/] In his prefiled testimony, Mr. Rothschild stated that the Ibbotson and Sinquefield study concluded that the real return on long-term U.S. Government bonds only exceeded inflation by 0.7 to 0.9 percent.[42/] Further, Mr. Benore's own Schedule 14 indicated no premium between the average inflation rate and the average return on long-term U.S. Government bonds. Given the Ibbotson and Sinquefield study and Mr. Benore's schedule, the expected return on U.S. Government bonds should be less than 8 percent, given a 7 percent core inflation rate. The indicated return on AEP's common equity, based on the risk premium approach, would be substantially less than 17.0 to 17.5 percent. One limitation of the risk premium approach is the fluctuation of the premium between bonds and common equity. At the hearing, Mr. Benore agreed that the risk premium between bonds and common equity fluctuates with changes in financial markets and has been negative in recent years.[43/] The Commission is not convinced that an historical average risk premium is applicable to current bond rates to determine the cost of common equity. The relationship between bonds and common equity changes over time and an historical average representation of that relationship may not be valid.

Mr. Benore performed a DCF calculation for the equity capital to AEP and Kentucky Power. The Commission is not

convinced that AEP is comparable in risk to industrials, as represented by the S&P 400. The beta coefficient ("beta"), a measure of market related risk, is .70 for AEP and the average beta for the Moody's 24 electrics is also .70.[44/] On the other hand, the average beta for the S&P 400 is close to 1.0 and this indicates more market related risk for the S&P 400.[45/] Also, electric utilities in general have more stable revenues than the firms in the S&P 400 which would tend to indicate lower relative risk on the part of AEP and electric utilities as compared to the S&P 400.[46/] Mr. Benore compared the financial integrity of AEP, Kentucky Power and the S&P 400 through the use of six indicators and determined that AEP's and Kentucky Power's financial integrity was inferior to that of the S&P 400.[47/] The Commission is not convinced that the financial ratios of a diverse group of industrials are comparable to a homogeneous group of electric utiilties or AEP. Differences, between AEP and the S&P 400, in capital intensity and stability of revenues would seem to preclude a meaningful comparison of financial ratios. Mr. Benore did not perform a DCF calculation for AEP because of the low level of financial integrity being experienced by AEP and electric utilities in general.[48/] However, this does not validate Mr. Benore's method of performing a DCF analysis of the S&P 400 and applying the results to AEP. The dividend growth rate for AEP, both historical and projected, according to Value Line is 2 percent.[49/] Therefore, the DCF indicated return on equity for AEP and Kentucky Power would be much lower than Mr. Benore's 17.5 percent estimate.

Mr. Rothschild recommmended a 14.0 to 14.5 percent return on equity based on Kentucky Power's requested capital structure and a 13.75 to 14.25 percent return based on his recommended capital structure.[50/] He developed those recommendations based on an internally consistent DCF analysis, a comparable earnings analysis and a risk premium analysis.[51/] Mr. Rothchild estimated a 2.64 percent growth rate for the Moody's 24 electrics and a .01 to 1.28 percent growth rate for AEP, based on the b x r method.[52/] In its brief, the Residential Intervenors supported the recommended range of returns on common equity proposed by Mr. Rothschild.[53/]

The Commission is not convinced of the validity of Mr. Rothschild's risk premium analysis for the same basic reasons it doubts the validity and usefulness of Mr. Benore's risk premium analysis. Mr. Rothschild used the b x r method to determine the growth rate used in his DCF analysis. AEP's market to book ratio has been less than 1 for more than 2 years and Kentucky Power has paid dividends in excess of earnings since 1979.[54/] These two facts indicate that Kentucky Power's earnings are inadequate. If earnings are inadequate, the b x r method tends to understate the expected growth rate and the entire DCF determined return on equity is understated. The Commission is not convinced that Mr. Rothschild's recommended return on equity is adequate to maintain Kentucky Power's current level of financial integrity, let alone improve it.

The Commission recognizes the necessity of maintaining Kentucky Power's financial integrity at an acceptable level to

provide the financial flexibility it needs. The Commission also recognizes the additional risk associated with Kentucky Power's highly leveraged capital structure and its high level of AFUDC earnings. However, at the hearing, Mr. Maloney stated that Kentucky Power has a manageable financing program.55/ Therefore, after considering all the evidence, including Kentucky Power's current financial condition, the Commission is of the opinion that a range of returns on equity of 16 to 17 percent is fair, just and reasonable. A return on equity in this range would not only allow Kentucky Power to attract capital at reasonable costs to insure continued service and provide for necessary expansion to meet future requirements, but also would result in the lowest possible cost to the ratepayer. A return on common equity of 16.5 percent will allow Kentucky Power to attain the above objectives.

Applying rates of 16.5 percent for common equity, 10.39 percent for long-term debt and 10.77 percent for short-term debt to the capital structure approved herein produces an overall cost of capital of 12.64 percent and provides a rate of return on net investment of 12.49 percent. The Commission finds this overall cost of capital to be fair, just and reasonable.

REVENUE REQUIREMENTS

The Commission has determined that Kentucky Power needs additional annual operating income of $2,139,069 to produce a rate of return of 16.5 percent on common equity based on the adjusted historical test year. After the provision for state and federal income taxes there is an overall revenue deficiency of $4,224,020 which is the amount of additional revenue granted herein. The net

operating income required to allow Kentucky Power the opportunity to pay its operating expenses and fixed costs and have a reasonable amount for equity growth is $54,824,146. The required operating income and the increase allowed herein are computed as follows:

Net Operating Income Found Reasonable	$54,824,146
Adjusted Net Operating Income	52,685,077
Net Operating Income Deficiency	2,139,069
Additional Revenue Required	$ 4,224,020

The additional revenue granted herein will provide a rate of return on net original cost of 12.49 percent and an overall return on total capitalization of 12.64 percent.

The rates and charges in Appendix A are designed to produce gross operating revenue of $182,964,368 which includes other operating revenue of $1,590,565.

OTHER ISSUES

Rate Design

Kentucky Power proposed changes to the Residential Electric Service ("R.S."), Large General Service ("L.G.S."), Municipal Waterworks ("M.W."), Quantity Power ("Q.P."), and Industrial Power ("I.P.") Tariffs. In the R.S. Tariff, Kentucky Power proposed to decrease the number of steps in the energy charge from three to two. For the L.G.S. Tariff, Kentucky Power proposed to reduce the energy charge from three steps to a single charge for all KWH sales and to add a demand charge. For the M.W. Tariff, Kentucky Power proposed to reduce the energy charge from two steps to a

single charge for all KWH used. Additionally Kentucky Power proposed to combine the Q.P. and I.P. tariffs into a new Quantity Power tariff in which the delivering voltage determines the rates to be charged. None of the intervenors objected to the proposed changes in the rate design, but Mr. Anthony Martin, attorney for the Residential Intervenors, objected to the "front loading" of the residential rates.

The Commission has accepted Kentucky Power's proposed rate design methodology but has adjusted the proposed revenue increase in each block of each rate class by the percentage of revenue increase allowed herein divided by the requested revenue increase.

Kentucky Power proposed that since tariffs Residential Service - Time of Day ("R.S.-T.O.D.") and Residential Service - Load Management - Time of Day ("R.S.-L.M.-T.O.D.") are still experimental and are tied to the R.S. tariff by a complex methodology, the Commission should follow the procedure used in Case No. 8429, whereby Kentucky Power was ordered to file within 30 days from the date of the Order the R.S.-T.O.D. and R.S.-L.M.-T.O.D. tariffs tied to the methodology approved in Case No. 7687, General Adjustment of Rates of Kentucky Power Company.

The Commission accepts Kentucky Power's proposed changes in the G.S. and L.G.S. tariffs that would limit the availibility of service to new customers to loads of not more than 100 KW and, 1,000 KVA, respectively. Customers currently receiving service under these tariffs may continue to receive service until their load changes as specified in the tariff.

Fuel Cost Synchronization

In Case No. 8648, Adjustment of Rates for Wholesale Electric Power to Member Cooperatives of East Kentucky Power Cooperative, Inc., the Commission stated that the issue of fuel cost synchronization would be investigated further to determine whether an adjustment "to zero out the fuel adjustment clause" for each electric utility was necessary. Thus, the Commission has investigated the possibility of such an adjustment in this case even though no party of record proposed it.

Kentucky Power's witness Mr. Boyle stated,

> By the very nature of the fuel adjustment clause mechanism e.g., the two month recovery lag, the provision regarding energy purchased during a forced outage, it would be unlikely that fuel revenue and fuel expenses would be equal during any twelve month period. Therefore, while a mismatch of varying magnitude can be expected to recur, the net difference between fuel cost and revenue should not be substantial over time.[56/]

During the hearing, Mr. Boyle provided a copy of his working papers showing that fuel revenues exceeded fuel expenses by approximately $1,352,598 during the test year.[57/]

Certainly, the Commission does not wish to give Kentucky Power, or any other electric utility, the opportunity to recover the same fuel costs twice. Likewise, the Commission does not wish to penalize Kentucky Power or any other electric utility unjustly.

However, the Commission is of the opinion that an adjustment of this type is not necessary at this time. Furthermore, the Commission will not accept such an adjustment until substantial evidence is presented to convince the Commission that it is required.

Cost Of Service Studies

Kentucky Power witness, Mr. Dennis Bethel, Senior Rate Analyst in AEP Rate Department, filed an embedded non-time-differentiated cost of service study to support proposed revenue allocation and rate design changes. The study allocated capacity-related costs among customer classes using the average of the 12 monthly coincident peaks (12CP) of each class. Certain distribution costs were classified into demand and customer related costs by use of the minimum distribution system method.

Kentucky Power also filed six time-differentiated cost of service studies in response to the Commission's Order in Case No. 8429. Kentucky Power witness, Mr. Mark Berndt, Rate Analyst in AEP Rate Department, prepared the six studies. The primary difference between the studies was how the capacity related costs were allocated to the customer classes. The allocation methodologies used in the studies were full availability dispatch, proportional responsibility, probability of contribution to peak, negative capacity days, loss of load probability, and a combination of full availability dispatch and loss of load probability.

In the Order in Case No. 8429, the Commission cautioned Kentucky Power that it would "be reluctant to deviate greatly from the historical allocation of revenue until time-differentiated cost of service studies are submitted by Kentucky Power."[58/] A table of class rates of return developed in the studies is presented in the testimony of Kentucky Power witness, Mr. Louis Jahn, Manager of Rate Research and Design Division at AEP.[59/] A

careful review of these results indicates that the rates of return among classes do not vary significantly when different allocation methodologies are used. Based on this observation Kentucky Power proposed to use the results of the 12CP method to allocate the revenue increase among classes. However, this does not negate the need for a time-differentiated cost of service study. According to Mr. Jahn's testimony, a time-differentiated study is useful for designing time-of-day rates.[60] Since time-of-day rates are currently being studied, it is expected that there will be a continuing need to present at least one time-differentiated study in future rate cases. Kentucky Power witnesses, Mr. Jahn and Mr. Berndt, indicated a preference for the method which combined the full availability dispatch and loss of load probability.[61] This combination incorporates the historical perspective of the full availability dispatch and the forward looking perspective of the loss of load probability. Whichever model is used in the future, sufficient documentation must be provided to allow the Commission and intervenors to examine alternative assumptions and allocations.

For determining revenue allocation in the present case, the Commission finds that the results of the 12CP cost of service study provide an adequate reference for its determination.

Interclass Risk Analysis

In response to the Commission's Order in Case No. 8429, Kentucky Power prepared a study to determine if risk differences between customer classes could be identified and used to assign income responsibilities. Kentucky Power witness, Mr. Bethel,

performed the study and presented the conclusions in his testimony. One phase of the analysis consisted of regressing several financial variables against the dependent variables, Value Line Betas and S&P's bond ratings, which are two commonly used measures of risk. The financial variables, percent residential and percent industrial revenues, were found to be statistically insignificant in explaining the variation in Beta or bond rating. Another phase of the analysis ranked customer classes according to the variations in class revenues, revenues excluding fuel and kwh sales over time. Since no consistent ranking of class could be developed, it was concluded that risk differences between classes of customers should not be considered in assigning rates of return to classes.

Although there were some questions concerning data and certain details of the analysis, the Commission finds the study to be a reasonable attempt at addressing a very difficult subject. As Kentucky Power continues its efforts to equalize class rates of return gradually, the significance of this type of analysis increases. Thus the Commission expects the concerns it raised in its previous Order to continue.

Revenue Allocation

Kentucky Power witness, Mr. Robert Bibb, Rates and Tariffs Manager for Kentucky Power, presented class allocations of revenue increases based on the results of Kentucky Power's embedded cost of service study. Generally, the proposed revenue increase was distributed to the customer classes on an inverse relationship to the current class rates of return. For instance, the largest

percentage increase in rates is proposed for the residential class, which provides the lowest rate of return. The residential class currently provides a 6.34 percent rate of return and a 20 percent revenue increase is proposed.[62] The revenue increase of 20 percent is the maximum increase proposed for any class of customers. Mr. Bibb testified that Kentucky Power's objective is to gradually equalize class rates of return and that it would take approximately five more rate cases for Kentucky Power to realize this objective.[63]

KIUC witness, Mr. George Gerasimou, presented an alternative class allocation of revenue increases. His alternative was developed using the results of Kentucky Power's embedded cost of service study. However, rather than establish a maximum revenue increase to any class of customers Mr. Gerasimou proposed that the objective of equalizing class rates of return be accomplished in three rate cases.[64] This approach would yield a 26 percent increase for the residential class and increases for the general service, large general service and industrial classes that are smaller than those proposed by Kentucky Power.

The Commission notes that there has been some movement toward equalizing class rates of return from the last case to this case. Although the movement has been small, the Commission finds that it conforms to its notion of gradual shifting of class revenues. Therefore, the Commission finds that the revenue allocation proposed by Kentucky Power is reasonable and that the revenue increase granted in this case should be allocated in similar proportions to those proposed by Kentucky Power.

Interruptible Tariff

Pursuant to the Order in Administrative Case No. 203, Ratemaking Standards Identified in the Public Utility Regulatory Policies Act of 1978, Kentucky Power has filed an interruptible rate schedule in this case. The schedule makes interruptible service available to customers with demands of at least 5,000 kilowatts.

Kentucky Power witness, Mr. Jahn, testified that the interruptible schedule reflects a 15 percent discount as compared to the firm service tariff.[65] The 15 percent discount was based on the experience of other AEP companies. However, Mr. Jahn stated that the 15 percent discount may be altered in future rate cases depending on the experience gained.[66] Mr. Jahn further testified that presently there are 17 customers who would qualify for interruptible service and that Kentucky Power plans to contact these customers and inform them of the availability of the tariff if the tariff is approved.[67]

The Commission is of the opinion that an interruptible rate is a reasonable means to attempt to control load growth. The Commission intends to encourage such rates. Therefore, the Commission has approved the proposed interruptible tariff with the understanding that Kentucky Power will use the tariff to assess the potential interest of its customers. In its next rate case, Kentucky Power should report on its efforts to determine the interest in the tariff and consider proposing modifications that are cost-justified and which may promote a wider use of the tariff.

Price Elasticity Adjustment

Kentucky Power witness, Mr. Jahn, provided an alternative set of rates for the R.S., General Service ("G.S."), L.G.S. and Q.P. tariffs.[68/] The rates he provided were developed by adjusting the historical billing determinants for a price elasticity effect. Mr. Jahn's reasoning for the adjustment is that if higher prices or rates are granted, then one should expect a reduction in the billing determinants, which reflect the quantity of electricity demanded.

In order to measure the price elasticity effect, multiple regression analysis was performed. Multiple regression analysis is a statistical technique which examines the variation in one variable, called a dependent variable, in terms of several explanatory variables, called independent variables. The result of the analysis is a mathematical relationship between the independent variables which minimizes the variations in the dependent variable. In the case where there is only one independent variable, regression analysis can be thought of as finding the line which best fits the data points. The principle of multiple regression analysis is the same.

A regression model for the residential class of customers was developed. The dependent variable was the kwh consumption per customer. The independent variables were the real marginal price of electricity, income and weather. A third regression model was developed for the industrial class of customers. The dependent variable was annual kwh consumption by the class. The independent variables were average price, manufacturing employment and a

manufacturing production index. Since the logged values of all of the variables except weather were used in the regression analysis, the regression coefficients for the price of electricity were considered estimates of price elasticity for each class. The price elasticity estimates for the residential, commercial and industrial classes were -.628, -.219 and -.315, respectively.[69/] The standard error associated with these price elasticity estimates were .1937, .1287 and .0892, respectively.[70/]

Mr. Jahn testified that the only independent variables that were used in the computer runs of the regression models were those presented in the final model. Other than data transformations, no alternative variables were subjected to statistical analysis.[71/] Further, Mr. Jahn's models for the residential and commercial classes only considered historical data from 1970 through 1979.[72/] He testified that this was a consequence of their reliance on data bank services and that it would be cost-prohibitive for Kentucky Power to prepare more current information.[73/] Based on previous models filed with the Commission, there are other relevant and more current economic and demographic data that should be considered and subjected to statistical analysis.

In addition, the Commission in its rate-making procedures employs a historical test year and considers pro forma adjustments for known and measurable changes in expenses. For example, if a utility provides evidence that a union contract calls for a 5 percent increase in the near future and the Commission finds the amount reasonable, the historical wages are adjusted to reflect the change. However in the case of a price elasticity adjustment,

the utility is presenting the Commission with a statistical estimate to be considered as known and measurable. Consider the thrust of this request in this case. For instance, Kentucky Power is asking the Commission to allow it to adjust the billing determinants used to set rates for the residential class of customers based on the price elasticity estimate of -.628. However if the 95 percent confidence interval of this estimate is calculated, one calculates a range of -1.007 to -.249.[74] That is, one can be 95 percent confident that the true price elasticity value falls in the above range. Similar confidence intervals can be calculated for the commercial and industrial price elasticity estimates. The Commission's known and measurable standard was never intended to extend to such uncertain adjustments.

Finally, Mr. Jahn testified that Kentucky Power has never included a price elasticity adjustment in any previous rate cases and that historically stockholders have absorbed the risk of sales lost due to price increases.[75] This observation supports the Commission's previously stated position that the business risk associated with a price elasticity adjustment is already internalized in the stockholder's risk and return evaluation associated with utilities in Kentucky.[76]

Therefore, the Commission denies the price elasticity adjustment proposed by Kentucky Power.

SUMMARY

The Commission, having considered the evidence of record, and being advised, is of the opinion and finds that:

1. The rates in Appendix A are the fair, just and reasonable rates for Kentucky Power and will produce gross annual revenue of approximately $182,964,368.

2. The rates of return granted herein are fair, just and reasonable and will provide for the financial obligations of Kentucky Power with a reasonable amount remaining for equity growth.

3. The rates proposed by Kentucky Power would produce revenue in excess of that found reasonable herein and should be denied upon application of KRS 278.030.

IT IS THEREFORE ORDERED that the rates in Appendix A be and they hereby are approved for service rendered by Kentucky Power on and after September 20, 1983.

IT IS FURTHER ORDERED that the rates proposed by Kentucky Power be and they hereby are denied.

IT IS FURTHER ORDERED that within 30 days from the date of this Order Kentucky Power shall file with the Commission the R.S.-T.O.D. and R.S.-L.M.-T.O.D. tariff sheets which are to be tied, under the methodology approved in Case No. 7687, to the R.S. rates established herein.

IT IS FURTHER ORDERED that the A.G.'s motion to revoke certificate be and it hereby is granted to the extent that the Commission has initiated Case No. 8904, An Investigation of the Necessity and Usefulness of and the Cost Responsibility For the Hanging Rock-Jefferson 765-KV Transmission Line Under Construction By Kentucky Power Company.

IT IS FURTHER ORDERED that within 30 days from the date of this Order Kentucky Power shall file with the Commission its revised tariff sheets setting out the rates approved herein.

Done at Frankfort, Kentucky, this 20th day of September, 1983.

PUBLIC SERVICE COMMISSION

Chairman

Did not participate
Vice Chairman

Commissioner

ATTEST:

Secretary

FOOTNOTES

1. Transcript of Evidence ("T.E."), Volume II of V, August 3, 1983, pages 130-133.
2. AG's motion to revoke certificate, pages 3 and 4.
3. Financial Exhibit, Section V, Schedule 2, page 1.
4. Henkes Prepared Tetsimony, page 18.
5. Financial Exhibit, Section V, Schedule 2, page 1.
6. Henkes Prepared Testimony, page 9.
7. Ibid., pages 12 and 13.
8. Response to Item 23, AG Data Request 1st Set, Revised.
9. Henkes Prepared Testimony, page 7.
10. Order in Case No. 8429, Kentucky Power Company, entered October 13, 1982, page 4.
11. Item 44a, Response to Commission Second Data Request.
12. Ibid., Item 44B.
13. Applicant's Hearing Exhibit No. 5.
14. Financial Exhibit, Section V, Workpaper S-1, page 4.
15. Rothschild Prepared Testimony, page 51.
16. Ibid.
17. T.E., Volume V of V, August 5, 1983, pages 78 and 139.
18. Order in Case No. 8429, Kentucky Power Company, entered October 13, 1982, page 3.
19. Financial Exhibit, Section V, Workpaper S-1, page 2.
20. T.E., Volume V of V, August 5, 1983, page 146.
21. Financial Exhibit, Section V, Schedule 2, page 1.
22. Henkes Prepared Testimony, pages 43 and 44.
23. T.E., Volume III of V, August, 4, 1983, page 108.
24. Bissinger Prepared Testimony, page 3.

25. H.A. Bissinger Exhbit No. 1, page 2 of 9.

26. T.E., Volume III of V, August 4, 1983, page 165.

27. D'Onofrio Prepared Testimony, pages 2 and 3.

28. Maloney Prepared Testimony, page 6.

29. Response to Item 36, AG Data Request 1st Set.

30. T.E., Volume II of V, August 4, 1983, page 104.

31. KIUC Post-hearing Brief, page 19.

32. Henkes Prepared Testimony, page 17.

33. Rothschild Prepared Testimony, page 53.

34. Update to Financial Exhibit, Section V, Workpaper S-1, page 7.

35. Benore Prepared Testimony, pages 2 and 8.

36. Ibid., pages 17, 19, and 21.

37. Ibid., page 21.

38. Ibid., pages 28 and 29.

39. Ibid., page 29.

40. Ibid., page 31.

41. Item 19, Sheet 1, Response to Commission Second Data Request.

42. Rothschild Prepared Testimony, page 55.

43. T.E., Volume I of V, August 2, 1983, page 281.

44. Ibid., page 280.

45. Ibid.

46. Ibid., page 281.

47. Benore Prepared Testimony, page 9.

48. Ibid., page 16.

49. T.E., Volume I of V, August 2, 1983, page 287.

50. Rothschild Prepared Testimony, page 1.

51. Ibid., page 13.

52. Rothschild Schedule 3, pages 1a and 1b.

53. Residential Intervenor's Post-hearing Brief, page 7.

54. Benore Exhibit, Schedule 7, and Item 4b, Sheet 3, Response to Commission's First Data Request.

55. T.E., Volume II of V, August 3, 1983, page 78.

56. Item 11B, Response to Commission Third Data Request.

57. T.E., Volume III of V, August 4, 1983, Applicant's Exhibit 4.

58. Order in Case No. 8429, Kentucky Power Company, entered June 18, 1982, page 27.

59. Jahn Prepared Testimony, Page 25.

60. Ibid., page 26.

61. T.E., Volume III of V, August 4, 1983, Page 252; T.E., Volume IV, of V, August 5, 1983, page 53.

62. Bibb Prepared testimony, page 13.

63. T.E., Volume III of V, August 4, 1983, pages 187-188.

64. Gerasimou Prepared Testimony, page 14.

65. Jahn Prepared Testimony, page 23.

66. Ibid.

67. T.E., Volume IV of V, August 5, 1983, pages 49-52.

68. Jahn Prepared Testimony, Exhibit LRJ-4.

69. Ibid., Exhibit LRJ-3.

70. Hearing Request #1 to Mr. Jahn, page 3 of 3.

71. T.E., Volume IV of V, August 5, 1983, page 62.

72. Jahn Prepared Testimony, Exhibit LRJ-3, pages 1-2.

73. T.E., Volume IV of V, August 5, 1983, page 63.

74. A 95 percent confidence interval is calculated as the regression coefficient plus or minus the appropriate value from the Students to distribution times the standard error. In this case the t-value is 1.96 and the standard error is .1937.

75. T.E., Volume IV of V, August 5, 1983, page 78.

76. Commission final Orders in Case No. 8467, South Central Bell Telephone Company, and Case No. 8624, Kentucky Utilities Company.

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 8734 DATED SEPTEMBER 20, 1983.

The following rates and charges are prescribed for the customers in the area served by Kentucky Power Company. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of this Commission prior to the effective date of this Order.

TARIFF R. S.
(Residential Service)

RATE

Service Charge	$ 3.60 per month
Energy Charge	
First 500 kwhrs per month	4.570 ¢ per kwhr
All Over 500 kwhrs per month	3.990 ¢ per kwhr

TARIFF G. S.
(General Service)

Customers receiving service under this tariff on or prior to September 20, 1983, with demands less than 100 kw may qualify for service under this tariff only for continuous service at the premises occupied by the customer on September 20, 1983, and only until such time as their contract capacity or normal maximum capacity requirements exceed 100 kw.

Service Charge	
Non Demand Metered Customers	$ 8.55 per month
Demand Metered Customers	9.70 per month
Energy Charge	
Kwhrs equal to first 50 times kw of monthly billing demand	6.232 ¢ per kwhr
Kwhrs equal to next 150 times kw of monthly billing demand	5.189 ¢ per kwhr
Kwhrs in excess of 200 times kw of monthly billing demand	4.035 ¢ per kwhr

Equipment Credit: $.27 per kw of monthly billing demand.

Minimum Charge: The Service Charge plus $3.72 per kw and as further specified in tariff.

TARIFF L. G. S.
(Large General Service)

Availability of Service: Available for general service. Customers shall contract for a definite amount of electrical capacity in kilovott-amperes, which shall be sufficient to meet normal maximum requirements but in no case shall the capacity contracted for be less than 50 kva. The Company may not be required to supply capacity in excess of that contracted for except by mutual agreement. Contracts will be made in multiples of 25 kva.

Effective September 20, 1983, this tariff will only be available to: 1) existing customers served under Tariff L.G.S. and only for continuous service at the premise occupied by the customer on September 20, 1983, 2) new secondary voltage customers, and 3) new primary voltage customers with contract capacities below 1,000 kva.

Service Charge: $63.20 per month

Demand Charge: $ 1.10 per kva

Energy Charge: 4.009¢ per kwhr

Minimum Charge: The Service Charge plus $3.49 per kva of monthly billing demand and as further specified in tariff.

Delivery Voltage Charge: $.26 per month per kva of monthly billing demand.

Equipment Credit: $.40 per kva of monthly billing demand.

Term of Contract: Contracts under this tariff will be made for not less than 1 year initial period with self-renewal provisions for successive periods of 1 year each. The Company will have the right to make contracts for periods of longer than 1 year.

TARIFF Q. P.
Quantity Power

Availability of Service: Available for power service. Customers shall contract for a definite amount of electrical capacity in kilowatts which shall be sufficient to meet normal maximum requirements, but in no case shall the capacity contracted for be less than 1,000 kw. The Company may not be required to supply capacity in excess of that contracted for except by mutual agreement. Contracts will be made in multiples of 100 kw.

RATE:

	Delivery Voltage		
	2.4 Kv - 12.5 Kv	34.5 Kv - 69 Kv	Above 69 Kv
Service Charge Per Month:	$155.00	$555.00	$1,229.00
Demand Charge Per Month:	7.15	6.43	6.34
Energy Charge Per KWHR:	1.849¢	1.812¢	1.797¢

Reactive Demand Charge
For each kilovar of lagging reactive demand in excess of 50 percent of the kw of monthly billing demand ... $.42 per kvar

Delivery Voltage: The rate set forth in this tariff is based upon the delivery and measurement of energy at the same voltage. As indicated in the paragraph under "rates" the voltage at which service is delivered will determine the applicable rate.

Equipment Supplied by Customer: The customer shall own, operate, and maintain equipment, including all transformers, switches and other apparatus necessary for receiving and purchasing electric energy at the voltage of the transmission or distribution line from which service is delivered.

Monthly Billing Demand: The billing demand in kw shall be taken each month as the highest single 30-minute integrated peak in kw as registered during the month by a demand meter or indicator, or, at the Company's option, as the highest registration of a thermal type demand meter or indicator. The billing demand shall in no event be less than 60 percent of the contract capacity of the customer, nor less than 1,000 kw.

The reactive demand in kvars shall be taken each month as the highest single 30-minute integrated peak in kvars as registered during the month by a demand meter or indicator or at the Company's option, as the highest registration of a thermal type demand meter or indicator.

Delayed Payment Charge.

This tariff is net if account is paid in full within 15 days of date of bill. On all accounts not so paid, an additional charge of 5 percent of the unpaid balance will be made.

Minimum Charge: This tariff is subject to a minimum monthly charge equal to the sum of the service charge and the demand charge multiplied by the greater of a) 1,000 kw, or b) 60 percent of the customer's contract capacity.

Term of Contract: Contracts under this tariff will be made for not less than 2 years initial period with self-renewal provisions for successive periods of 1 year each. Either party may terminate the contract with at least 1 year written notice to the other of the intention to discontinue service; however, the contract may not be terminated during the initial period. The Company will have the right to make contracts for periods of longer than 2 years.

Special Terms and Conditions: See Terms and Conditions of Service.

This tariff is available to customers having other sources of energy supply.

This tariff is available for resale service to legitimate electric public utilities and to mining and industrial customers who furnish service to customer-owned camps or villages where living quarters are rented to employees and where the customer purchases power at a single point for his power and camp requirements.

TARIFF M. W.
(Municipal Waterworks)

RATE

Service Charge: $19.80 per month

Energy Charge:

All kwhrs used per month 3.826 ¢ per kwhr

Minimum Charge: The Service Charge plus $2.25 per kva as determined from customer's total connected load and as further specified in tariff.

TARIFF I.R.P.
(Interruptible Power)

AVAILABILTIY OF SERVICE.

Available to industrial customers whose plants are located adjacent to existing transmission lines of the Company when the Company has sufficient capacity in generating stations and other facilities to supply the customer's requirements. The Company reserves the right to specify the times at which deliveries hereunder shall commence.

The customer shall contract for a definite amount of electrical capacity which shall be sufficient to meet his normal maximum requirements and the Company shall not be required to supply capacity in excess of that contracted for except by mutual agreement. Contracts hereunder will be made for minimum capacities of 5,000 kilowatts.

RATE.

	Delivery Voltage	
	34.5 Kv - 69 Kv	Above 69 Kv
Service Charge per month	$555.00	$1,229.00
Demand Charge per kw	$ 5.47	$ 5.39
Energy Charge per kwhr	1.812¢	1.797¢

Reactive Demand Charge
For each kilovar of lagging reactive demand in excess of 50% of the kw of monthly billing demand . . . . $.42 per kvar

DELIVERY VOLTAGE.

The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage. Company shall determine and advise customer which of its lines will be utilized to deliver service hereunder and shall specify the voltage thereof.

Customer shall own, operate, and maintain all necessary substation equipment, including transformers and appurtenances thereto, for receiving and purchasing all electric energy at the delivery voltage. Company shall own, operate, and maintain necessary metering equipment.

FUEL ADJUSTMENT CLAUSE

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per kwh calculated in compliance with the Fuel Adjustment Clause contained in Sheet 5-1 and 5-2 of this Tariff Schedule.

MONTHLY BILLING DEMAND.

The billing demand in kw shall be taken each month as the highest single 30-minute integrated peak in kw as registered during the month by a demand meter or indicator, or, at the Company's option, as the highest registration of a thermal type demand meter or indicator. The billing demand shall in no event be less than 60% of the contract capacity of the customer, nor less than 5,000 kw.

The reactive demand in kvars shall be taken each month as the highest single 30-minute integrated peak in kvars as registered during the month by a demand meter or indicator, or, at the Company's option, as the highest registration of a thermal type demand meter or indicator.

MINIMUM CHARGE.

This tariff is subject to a minimum monthly charge equal to the sum of the service charge and the demand charge multiplied by the greater of a) 5,000 kw or b) 60% of the customer's contract capacity.

DELAYED PAYMENT CHARGE.

Bills computed under this tariff are due and payable within 15 days of date of bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

TERM OF CONTRACT.

Contracts under this tariff will be made for not less than 5 years with self-renewal provisions for successive periods of 1 year each, until either party shall give at least 1 year's written notice to the other of the intention to discontinue at the end of any yearly period. The Company will have the right to make contracts for periods of longer than 5 years.

TARIFF I.R.P. (cont'd)
(Interruptible Power)

CONDITIONS OF SERVICE.

1. The interruptible load shall be shall be separately served and metered and shall at no time be connected to facilities serving the customer's firm load.

2. All local facilities for interrupting service to the interruptible load will be owned by the customer.

3. The frequency and duration of interruption shall not be limited.

4. In the event the customer fails to curtail load as requested by the Company, the Company reserves the right to interrupt the customers entire load.

5. No responsibility of any kind shall attach to the Company for or on account of any loss or damage caused by or resulting from any interruption of this service.

SPECIAL TERMS AND CONDITIONS.

See Terms and Conditions of Service.