

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

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In the Matter of:

NOTICE OF ADJUSTMENT OF)
THE RATES OF KENTUCKY-) CASE NO. 8836
AMERICAN WATER COMPANY)

O R D E R

On June 29, 1983, Kentucky-American Water Company ("Kentucky-American") filed its notice with this Commission seeking to increase its rates and charges effective July 20, 1983, to produce an annual increase in revenue of \$2,251,472, an increase of approximately 17 percent. Kentucky-American stated that the increase was necessary to offset increased operating and capital costs and to provide adequate capital recovery. In this Order the Commission has allowed an increase in operating revenues of \$704,343.

In order to determine the reasonableness of the request, the Commission suspended the proposed rates and charges for 5 months after the effective date and scheduled a public hearing for October 6, 1983. On its own initiative, Kentucky-American held a public meeting at its offices in Lexington, Kentucky, to receive public comments on its requested rate increase. The Commission commends Kentucky-American for holding this meeting to explain its requested rate increase to its customers.

Hearings were held on October 6 and 7, 1983, in the Commission's offices in Frankfort, Kentucky, following notice given pursuant to the Commission's regulations. The Consumer Protection Division of the Attorney General's Office ("AG") and the Lexington-Fayette Urban County Government ("Urban Co.") intervened in this matter and participated in the hearings. Simultaneous briefs were filed with the Commission on November 7, 1983, and all requested information has been received.

ANALYSIS AND DETERMINATION

Test Period

Kentucky-American proposed and the Commission has accepted the 12-month period ending March 31, 1983, as the test period in this matter.

VALUATION METHODS

Net Investment

Kentucky-American proposed a net investment rate base at March 31, 1983, of \$42,197,581.^{1/} The Commission has accepted this rate base with two exceptions. The cash working capital allowance has been reduced by \$17,212^{2/} to reflect the Commission's adjustments to Kentucky-American's proposed operations and maintenance expenses and the reserve for depreciation has been reduced by \$469,523 to reflect the adjustments to depreciation expense found reasonable herein.

Therefore, the Commission has determined Kentucky-American's net investment rate base at March 31, 1983, to be as follows:

Utility Plant in Service	\$61,634,899
Construction Work in Progress	200,989
Prepayments	22,089
Materials and Supplies	224,045
Capitalized Tank Painting	433,259
Cash Working Capital	<u>1,126,788</u>
Subtotal	<u>\$63,642,069</u>
Less:	
Reserve for Depreciation and Amortization	\$ 8,629,932
Customer Advances for Construction	2,101,306
Contributions in Aid of Construction	3,663,218
Deferred Federal and State Taxes	3,951,497
Unamortized Investment Tax Credit	<u>270,435</u>
Subtotal	<u>\$18,616,388</u>
Less:	
Adjustment for Excess Capacity in the Kentucky River Station less Reserve for Depreciation	<u>\$ 863,853</u>
Net Original Cost Rate Base	<u>\$44,161,828</u>
Less:	
Plant Acquisition Adjustment	<u>\$ 1,511,936</u>
Net Investment	<u><u>\$42,649,892</u></u>

Capital Structure

Kentucky-American proposed to use an adjusted end-of-test year capital structure containing 58.24 percent long-term debt, 8.42 percent preferred stock, 4.28 percent Job Development Investment Tax Credit ("JDIC") and 29.06 percent common equity.^{3/} The adjustments to test-year end capital structure were to delete the long-term debt issue that matured on May 1, 1983, to include the issue sold on June 21, 1983, to

reduce the 1983 sinking fund requirement, to delete disallowed plant and plant held for future use as ordered by the Commission in Case No. 8571, Notice of Adjustment of the Rates of Kentucky-American Water Company on and after September 17, 1982, and to reflect the utilization of long-term debt and preferred stock at their carrying values.^{4/}

The AG's witness, Mr. Hugh Larkin, Jr., of Larkin and Associates, accepted most of the components of Kentucky-American's proposed capital structure but did not include JDIC.^{5/} The resulting structure contained 60.84 percent long-term debt, 8.80 percent preferred stock and 30.36 percent common equity.

The Commission is of the opinion that the amount outstanding rather than the carrying value of long-term debt and preferred stock should be utilized in determining the capital structure. Moreover, the Commission has increased capital by \$1,854,169 to recognize JDIC at March 31, 1983. These adjustments result in adjusted capitalization of \$43,568,985. Thus, the Commission has determined Kentucky-American's capital structure to be as follows:

	\$	%
Long-Term Debt	\$26,537,869	60.91
Preferred Stock	3,890,710	8.93
Common Equity	<u>13,140,406</u>	<u>30.16</u>
	<u>\$43,568,985</u>	<u>100.00</u>

The JDIC of \$1,854,169 has been allocated to each component on the basis of the ratio of each component to capital structure excluding JDIC. The Commission in further calculations assigns the overall cost of capital to JDIC as required by Section 46F of the Internal Revenue Code.

REVENUES AND EXPENSES

Kentucky-American had net operating income of \$3,943,850^{6/} for the test period. In order to reflect more current operating conditions, Kentucky-American proposed several adjustments to its test period revenues and expenses which resulted in an adjusted net operating income of \$3,622,455.^{7/} The Commission is of the opinion that the proposed adjustments are generally proper and acceptable for rate-making purposes with the following exceptions:

Depreciation Expense Changes Proposed

Kentucky-American proposed to modify its method of computing the depreciation expense of its physical plant. The changes consisted of substituting the straight-line remaining life method for the straight-line average life method of computing depreciation accruals, changing the service lives of various property accounts, and including negative net salvage as part of the recoverable cost of plant. The cumulative effect of the proposed changes would be to increase the depreciation expense for the test year by the amount of \$423,666.^{8/} To support its position Kentucky-American presented evidence and testimony by Mr. John D. Russell, a consultant on utility depreciation practices. Mr. Russell

entered into evidence a report entitled "Depreciation Study" which he had prepared. In the report, Mr. Russell had subjectively assigned a service life to each of Kentucky-American's depreciable property accounts. From these service lives, the various account balances, and the use of computer-generated computations, Mr. Russell designated one of the series of "Iowa Curves" for each property account. By reviewing the history of the various accounts, Mr. Russell determined net salvage values of each account as a percentage of its original cost. A computer program was utilized to calculate from all this data a depreciation rate for each of Kentucky-American's property accounts.

Kentucky-American proposed the remaining life method of depreciation in order to more closely match capital recovery with capital consumption.^{9/} Among the defects given for the average service life method were reserve deficiencies because of early retirements and the lack of full and timely capital recovery when retirements are required prior to the end of normal life. Kentucky-American witnesses were unable to present any instance in which Kentucky-American had been forced to make a major retirement of plant prior to full capital recovery.^{10/} The examples of premature retirements that were provided by Kentucky-American all dealt with utilities in industries other than water supply. This Commission is of the opinion that the supposed deficiencies of Kentucky-American's existing straight-line average service life method of calculating depreciation are based on mere

conjecture and are, in fact, not present in this case.

Kentucky-American also proposed to shorten the service lives of nearly two-thirds of its property accounts. According to Kentucky-American the proposed changes in service lives would increase the annual test year depreciation expense by \$208,640. Review of Mr. Russell's "Depreciation Study" indicates that very little evidence was presented to support his arbitrary assignments of shortened service lives for the various accounts. This Commission is of the opinion that proper determination of service lives is a crucial element of depreciation and warrants considerably more attention than it was given in Mr. Russell's report. Kentucky-American's argument for changing service lives of its property accounts is not persuasive and it is not accepted by this Commission.

The proposal by Kentucky-American to assign negative net salvage to several of its property accounts would add \$138,002 to the test year depreciation expense. Kentucky-American's previously approved depreciation schedule makes no direct allowance for negative net salvage. Mr. Russell testified that current labor costs have increased the cost of removing the various items of the physical plant to a point significantly above their salvage value. It was also testified, however, that it has been the past practice and it is the current practice of Kentucky-American to abandon in-place the majority of its retired assets. Kentucky-American claimed that the costs associated with cutting off and plugging abandoned mains and services

contribute to the cost of removal of these items. In support of its contention Kentucky-American makes reference to Note B for Balance Sheet Account 108 of the Uniform System of Accounts for Class A & B Water Utilities. Note B states in part:

At the time of retirement of depreciable utility plant in service, this account shall be charged with the book cost of the property retired and the cost of removal, and shall be credited with the salvage value and any other amounts recovered, such as insurance.

The Uniform System of Accounts defines "cost of removal" as follows:

"cost of removal" means the cost of demolishing, dismantling, tearing down or otherwise removing utility plant, including the cost of transportation and handling incidental thereto.

This Commission does not share Kentucky-American's interpretation that the Uniform System of Accounts requires that all incidental activities associated with the retirement of plant be included as "cost of removal." In fact, this Commission is of the opinion that only those costs that involve the direct physical removal and salvage of a substantial portion of utility plant should be charged as "cost of removal." All costs incidental to or required by the construction of, replacement of, or maintenance of utility plant should be charged directly to the appropriate activity. Given Kentucky-American's history of abandonment in place of retired plant, the establishment of a large depreciation allowance for "cost of removal" is not shown to be necessary.

Kentucky-American's present depreciation rates were approved August 12, 1960, in Case No. 3740, The Application of the Lexington Water Company for an Order Authorizing it to Make Revisions in its Schedule of Rates for Water Services. It would appear reasonable that with the passage of time these depreciation rates should be reviewed for their conformance with current conditions. It does not follow, however, that the passage of 23 years has invalidated the appropriateness of the approved depreciation rates. The burden of proof for the necessity of any change in the approved rates rests entirely with Kentucky-American. It is not necessary, as claimed by Kentucky-American's counsel, that this Commission or anyone else prove that the proposed change is inappropriate. This Commission considers the "Depreciation Study" prepared by Kentucky-American's consultant, John D. Russell, to be inadequate and unacceptable as presented. Kentucky-American's proposal to change its depreciation rates is disallowed in its entirety. This Commission is of the opinion that a change in Kentucky-American's depreciation structure in the magnitude proposed would require considerable detailed consultation with the Commission's technical staff and a hearing devoted to that single issue.

Kentucky-American proposed to pass the \$15,000 cost of the "Depreciation Study" prepared for this case to its rate-payers over a period of 3 years. The basic objective of depreciation is to recover the original cost of capital assets over the useful life of the property. Fundamentally,

depreciation is the means used to protect the investor-supplied equity from the erosion of time and other forces. It is rather obvious that this "capital recovery," as it is commonly termed, accrues to the direct benefit of the investors themselves. Any change in the depreciation rates of Kentucky-American would merely change the time frame in which its investors recovered their capital investment. A change in the depreciation rates would not change the beneficiaries of those rates - the investors. Kentucky-American has not shown that its ratepayers would receive any advantage from the proposed change in depreciation rates. It is, therefore, unreasonable to require that the ratepayers bear the administrative costs of the proposed change in the depreciation rates. Kentucky-American's proposal to pass the cost of its "Depreciation Study" directly to the ratepayers is disallowed, resulting in a reduction in proposed operating expenses of \$5,000.

Depreciation Expense on Contributed Property

It is the Commission's policy to compute depreciation expense for water utilities on the basis of original cost of the plant in service less contributions in aid of construction, as the utility should not be allowed cost recovery on that portion of the plant which has been provided at zero cost. The Commission has uniformly applied this policy to all water utilities under its jurisdiction except for Kentucky-American. The Commission is of the opinion that

it would not be appropriate at this time to continue to allow Kentucky-American to be exempted from this policy. Kentucky-American supplied the Commission with information that the depreciation expense on contributed property using the proposed depreciation rates is \$72,958.^{11/} Because the proposed rates have not been accepted, the Commission has decreased this adjustment to \$45,947^{12/} using Kentucky-American's present depreciation rates. Thus the Commission's disallowance of this expense results in a reduction of \$45,947 from the test period depreciation expense of Kentucky-American.

Kentucky-American noted that the disallowance of the depreciation expense on contributed property must also be accompanied by a corresponding adjustment to the depreciation reserve. The Commission agrees and, as mentioned previously, has decreased the depreciation reserve by the amount of this adjustment.

Sales Reduction

Kentucky-American proposed a reduction in revenues of \$101,006 to reflect decreased consumption of industrial and public authorities customers, as well as a corresponding adjustment of \$20,965 to reduce chemical and fuel costs for the sales reduction. Mr. Larkin proposed that this adjustment be rejected as speculative and selective in view of historical sales levels. He recommended that the Commission also consider an adjustment to increase Kentucky-American's

test-period sales to "a normal level based on historical sales and taking into consideration customer growth."^{13/}

Kentucky-American's witness, Mr. Charles W. Jones, a Rate Analyst for Kentucky-American, testified that the adjustment for sales decreases was based on conversations with industrial and public authorities customers as well as sales averages for certain months of the test period.^{14/} Specifically, Mr. Jones stated that a proposed reduction to the Federal Correctional Institute ("FCI") was determined by "conversation with FCI that their sales would be decreasing and this is the period where we have seen a decrease in sales."^{15/} Mr. Jones also stated that sales decreases attributable to Trane Company were based on a 4-month period because "it was felt that those 4 months were representative" but failed to explain why the period used was representative of pro forma sales.^{16/} The Commission is of the opinion that the estimates presented were neither properly determined nor adequately supported. The Commission's policy is to determine rates based on an historical test period adjusted for known and measurable changes. The assumption that a 4-month average of sales represents a known and measurable change upon which to set rates ignores various usage factors and possible abnormalities in the 4-month period used. Kentucky-American submitted no information to indicate that the proposed sales reductions were anything other than estimates that were neither known nor measurable.

Kentucky-American's witness, Mr. Robert A. Edens, Vice President and General Manager of Kentucky-American, testified that test period sales were abnormally low.^{17/} Mr. Edens further testified that sales for the test period and previous years were as follows:^{18/}

<u>Period</u>	<u>Sales in Thousand Gallons</u>
4/1/82 - 3/31/83	9,745,295
4/1/81 - 3/31/82	9,859,250
4/1/80 - 3/31/81	10,014,582
4/1/79 - 3/31/80	9,323,577
4/1/78 - 3/31/79	9,457,746
4/1/77 - 3/31/78	9,174,048

Kentucky-American has experienced steady growth in the number of customers during this 6-year period. Furthermore, the Camp, Dresser, McKee study of water demand submitted by Kentucky-American at the hearing forecasts increased water demand for each user category, including industrial and public authorities, for 1985 and the periods beyond.^{19/} Based on the evidence of record, the Commission agrees with Mr. Edens that the test period sales were depressed. The Commission is therefore of the opinion that acceptance of the proposed sales adjustments would be inappropriate because these adjustments were not shown to be known and measurable and were based upon selective reductions taken from sales results which were already depressed. The Commission is further of the opinion, however, that the depression in test year sales over previous periods is not of such significance as to warrant the use by the Commission of a different test period from that proposed by Kentucky-American. Therefore, the Commission has

disallowed the proposed sales adjustment and the related adjustments to fuel and chemicals, resulting in a net increase in operating revenue of \$80,041.

Fuel and Power Costs

Kentucky-American originally proposed to adjust its fuel and power costs by \$140,516 to reflect three adjustments: normalization of the end of period rates and charges of its supplier Kentucky Utilities Company using the average fuel clause factor for the test period; an increase of \$70,000 in fuel and power costs due to additional pumping from the Kentucky River Station to Reservoir No. 4; and a reduction of \$17,356 in fuel and power costs associated with reduced sales previously discussed herein.^{20/} At the hearing Kentucky-American submitted an additional adjustment to reflect a reduction in pro forma fuel and power costs of \$37,719 due to Kentucky-American requesting and receiving permission for an exemption from the payment of sales tax for fuel and power used in the production of water.^{21/} The Commission commends Kentucky-American for its diligence in pursuing this cost reduction.

Kentucky-American in its fuel and power adjustment used the fuel adjustment clause ("FAC") average rate for the test period or .3966 cents per KWH. The Commission has adjusted Kentucky-American's fuel and power adjustment to reflect the latest 12-month average FAC rate of .3346 cents per KWH which reduces Kentucky-American's adjustment by \$24,262.^{22/}

Mr. Edens testified that the adjustment in the amount of \$70,000 to fuel and power cost was based on assumptions regarding plant capacities, system demand, and historical evidence indicating that test period pumpage into the Number 4 reservoir was abnormally low.^{23/} Mr. Edens also testified that customer demand and the amount of rainfall influence the pumpage required into the Number 4 reservoir, and further stated that sales and pumpage are "obviously" related.^{24/} The Commission concurs with Mr. Edens on the latter point. Moreover, the Commission is of the opinion that any fuel cost increases resulting from increased pumpage requirements into the Number 4 reservoir will be more than offset by increased revenues resulting from the sale of the water. Likewise, any change in the rainfall level should also result in both a change in pumping expenses and a change in sales revenue. Thus the Commission has disallowed the increase to pumping expense of \$70,000 because such an adjustment attempts to selectively increase the expense level without considering related adjustments to revenue levels. The net effect of the Commission's adjustments to fuel and power expense, including the adjustment of \$37,719 proposed by Kentucky-American, is a reduction in operating expenses of \$131,981.

End-of-Period Expense Adjustment

Kentucky-American proposed an adjustment to revenues and expenses to reflect the costs associated with the increase in the number of customers served at the end of the test

period. The expense adjustment is the same as that proposed in Case No. 8571, in which the Commission reduced the amount of the end-of-period adjustment for wage-related expenses which the Commission felt were duplicated in the wage adjustments proposed in that case. Kentucky-American offered no new evidence in this case to support its position on this adjustment except to state that the Commission granted the same adjustment to Kentucky Utilities Company in Case No. 8624, General Adjustment of Electric Rates of Kentucky Utilities Company. However, Kentucky-American's witness Mr. James Harrison, Assistant Treasurer of Kentucky-American, testified that he could not determine if the methods used by Kentucky-American were the same as those used by Kentucky Utilities.^{25/} The methodology used by Kentucky Utilities is, in fact, different from the methodology used by Kentucky-American in that the pro forma wage adjustment accepted in the Kentucky Utilities case is based on the actual test period salaries and wages, whereas Kentucky-American's pro forma adjustment is based on the numbers of employees at the end of the test period.^{26/}

The Commission is of the opinion that its adjustment in Case No. 8571 is both proper and necessary. Therefore, the Commission has reduced Kentucky-American's proposed adjustment to reflect the additional costs of serving the number of customers at the end of the test period by \$13,615. This adjustment is based on an operating ratio of 29.7 percent, which excludes wages and wage-related expenses from the

computation.^{27/} Thus, the Commission has reduced Kentucky-American's operating expenses by \$13,615.

Salaries and Wages

Kentucky-American proposed to increase operating expenses by \$210,215 to annualize salaries and wages based on the number of employees at the end of the test period and to reflect estimated increases of 5 percent to union and non-union personnel to become effective prior to January, 1984. Mr. Larkin proposed reductions to the proposed wages and salaries expense and corresponding reductions to pension costs and FICA taxes, which were computed using pro forma salaries and wages. Mr. Larkin stated in support of the proposed adjustment that the increase to be effective January, 1984, was not known and was a burden upon the ratepayers.

On September 29, 1983, Kentucky-American filed information indicating that actual increases originally estimated for non-union personnel, effective through October 1, 1983, were slightly more than the original estimate, which was not changed for rate-making purposes.^{28/} Subsequently, on November 18, 1983, Kentucky-American filed additional information to indicate that negotiations with the outside union had been completed and that the actual increase to this group had been less than estimated. The total increases granted which were known and measurable on November 18, 1983, were \$209,880, which did not include an estimated increase of

\$12,834 to Kentucky-American's inside union employees to become effective prior to December 31, 1983.^{29/}

The Commission has generally allowed wage increase requests not exceeding 5 percent to major utilities appearing before this Commission in 1983. Kentucky-American's wage and salary increases are within this guideline. Thus an adjustment to reduce Kentucky-American's proposed wage increase of \$210,215 is not necessary at this time. The Commission does place Kentucky-American on notice that it will continue to scrutinize future wage and salary increases to insure that such increases are not excessive.

Insurance Expense

Mr. Larkin proposed an adjustment of \$14,823 to decrease pro forma group insurance expense by the premiums paid for life and medical insurance of Kentucky-American's retirees and their dependents. Mr. Larkin stated that this benefit was probably contractual but that he did not believe it to be an appropriate expense for rate-making purposes. However, Mr. Larkin offered no support for this belief and under cross-examination agreed that this benefit is "probably" a standard offering by all regulated utilities. Therefore, the Commission has denied the AG's proposed adjustment to exclude these expenses.

Waste Disposal Expense

Kentucky-American proposed a pro forma waste disposal expense of \$57,081, an increase of \$22,154 over the amount charged to operating expenses for the test period. Kentucky-

American stated that this increase was necessary to state on an annualized basis the cost of sludge removal. The AG proposed the disallowance of this adjustment as an "unusual expense level" and suggested that the Commission examine unusual changes in other accounts.^{30/}

Mr. Harrison testified that waste disposal expenses have increased dramatically since 1981 because of additional water quality requirements. Mr. Harrison stated that Kentucky-American's waste disposal expense for 1981 was \$72,308 and that during April and May of 1983 Kentucky-American actually experienced sludge removal costs of \$90,396.^{31/} Mr. Harrison further testified that these expenses are annualized rather than expensed for rate-making purposes to lessen the burden on the ratepayers. This annualization methodology derives the total cost of waste disposal for a 4-year period and averages this cost, as the direct expensing of these costs would result in significant variations from period to period. The Commission has accepted this methodology in previous cases and is of the opinion that such treatment is still appropriate and beneficial to the ratepayers. Therefore, the AG's proposed adjustment has been denied.

Kentucky-American submitted, subsequent to the hearing, information regarding increases in other accounts.^{32/} The Commission has reviewed the items in question and is of the opinion that Kentucky-American's accounting treatment of these items is acceptable and that the aggregate level of

expenses for the test period is reasonable for rate-making purposes. The Commission has, therefore, made no adjustment to the expenses in question.

Rate Case Expenses

Kentucky-American proposed rate case expenses of \$80,000 for this case. The Commission has accepted the proposed expenses but herein voices its concerns regarding the level of this expense. Kentucky-American has previously testified in Case No. 8571 that it intends to file annual rate cases through 1986 due to ongoing construction. Given Kentucky-American's stated intentions, the Commission must be convinced that Kentucky-American is doing everything possible to minimize these costs and avoid unnecessary charges to the ratepayer. The Commission will continue to examine these costs to insure that such charges are not excessive.

Interest Synchronization

Kentucky-American proposed interest expense for rate-making purposes of \$2,337,834. Mr. Harrison took issue with 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. The Commission continues to be of the opinion that its past treatment of JDIC is proper and consistent with Internal Revenue Service regulations and such treatment will be continued in this proceeding. However, as this issue is currently before the

Kentucky Court of Appeals (Continental Telephone Company v. Public Service Commission, 82-CA-2657-Mr) and a final decision is imminent, the Commission finds it reasonable to adopt, in this proceeding, its recent decision regarding this issue in Case No. 8734, Adjustment of Rates of Kentucky Power Company, in its Order of October 31, 1983. In that proceeding, at the request of Kentucky Power Company to avoid additional judicial review of this issue, the Commission stated that if a final court decision should be adverse to the Commission's position, it would consider a rate adjustment to generate the revenues associated with the JDIC adjustment. As in Case No. 8734, this Order should eliminate the need for appeal of this matter at the judicial level.

At this time, in accordance with past practice, the Commission has applied the cost rates applicable to long-term debt to the JDIC allocated to the debt components of the capital structure. Using the capital structure allowed herein, the Commission has computed a net interest adjustment of \$170,083 which results in a reduction to income taxes of \$83,749.33/

Income Tax Expense

The income tax effect of the Commission adjustments to Kentucky-American's proposed level of adjustments is a decrease to adjusted net operating income of \$136,190. No tax offset has been computed on the proposed depreciation changes rejected by the Commission since Kentucky-American did not

provide any tax savings associated with the proposed depreciation expense.

RATE OF RETURN

Cost of Capital

Kentucky-American proposed a 9.52 percent rate^{34/} based on carrying value for long-term debt and a 7.31 percent rate^{35/} based on net proceeds for preferred stock. Mr. Larkin accepted these rates.^{36/} The Commission is of the opinion that the rates should be based on the amounts outstanding and therefore finds a rate of 9.45 percent reasonable for long-term debt and a rate of 7.15 percent reasonable for preferred stock.

Mr. Dillard Edgemon, Vice President and Treasurer of Kentucky-American, proposed a 16 percent return on equity and supported that recommendation with a risk premium analysis.^{37/} Mr. Edgemon determined the return on the market value of common equity for seven investor-owned water utilities. He determined that the average risk premium between A rated utility bonds and the average return on market value for the period 1969-1982 was 2.69 percentage points.^{38/} Since A rated utility bonds were yielding approximately 13.75 percent, the cost of common equity would be approximately 16.75 percent.^{39/} Mr. Edgemon also compared Kentucky-American's earnings to five other investor-owned water utilities, with lower debt ratios, and found they earned greater returns than Kentucky-American.^{40/} At the hearing, Mr. Edgemon stated that he had performed a Discounted Cash Flow ("DCF") analysis for the

seven water companies and arrived at a range of returns from 17.39 to 18.88 percent.^{41/} However, that DCF analysis was not contained in his prefiled testimony.

The Commission has stated its reservations about the validity and usefulness of the risk premium analysis in past Orders (Kentucky Power, Case No. 8734, pages 29-30). Clearly, risk premiums fluctuate over time and the use of an average, when data are highly variable, is of dubious value. The Commission and intervenors were unable to examine or test the validity of Mr. Edgemon's DCF analysis because it was not incorporated into his prefiled testimony.

Mr. Larkin did not perform any analyses to determine the cost of equity to Kentucky-American but adopted the 14 percent return on equity granted by this Commission in Kentucky-American's last rate case.^{42/} However, in its brief, the AG recommended that a return on equity of 13 percent be granted to Kentucky-American.^{43/} Using American Water Works Association, Kentucky-American's parent company, as a proxy for Kentucky-American, the DCF-determined cost of equity would be in the range of 11 to 14 percent.^{44/} In its brief, Urban Co. adopted the position and arguments of the AG.^{45/}

Kentucky-American derives certain benefits from its subsidiary relationship with American, such as a ready market for its common equity. The Commission is not convinced that a water utility in general and Kentucky-American in particular warrants a higher return on equity than electric or gas utilities. Therefore, after having considered all of the

evidence, including current economic conditions, the Commission is of the opinion that a return on common equity in the range of 13.5 to 14.5 percent is fair, just and reasonable. A return on equity in this range would not only allow Kentucky-American 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 ratepayers. Within this range of returns, the Commission finds that a return on common equity of 14 percent will allow Kentucky-American to meet its operating expenses and best attain the above objectives.

Rate of Return Summary

Applying rates of 14 percent for common equity, 7.15 percent for preferred stock and 9.45 percent for long-term debt to the capital structure approved herein produces an overall cost of capital of 10.62 percent. The additional revenue granted will provide a rate of return on net investment of 10.82 percent. The Commission finds this overall cost of capital to be fair, just and reasonable.

Authorized Increase

The required net operating income, based on the rate of return on net investment of 10.82 percent found fair, just, and reasonable is approximately \$4,627,026. To achieve this level of operating income, Kentucky-American is entitled to increase its rates and charges to produce additional revenues on an annual basis of \$704,343 determined as follows:

Calculation of Increase

Adjusted Net Operating Income	\$4,270,264
Net Operating Income Found Reasonable	\$4,627,026
Deficiency	\$ 356,762
Deficiency Adjusted for Income Taxes and P.S.C. Fees	\$ 704,343 ^{46/}

COST OF SERVICE

In Case No. 8571, Kentucky-American presented a cost of service study. The study employed a base-extra demand method to allocate costs between fire protection and general water service. The Commission found the study to be reasonable and that it provided "an objective starting point for deviating from the historical allocation of revenue as well as designing rates."^{47/} However, the Commission also noted that the study should be viewed in the light of its assumptions, as should all cost of service studies. In particular, the assumptions related to the incremental cost method used to allocate a portion of the joint cost between fire protection and general water service were specifically referenced in the Commission's Order.^{48/} These assumptions were singled out because the thrust of the incremental cost method is to assign to fire protection service all costs which cannot be directly assigned to general water service.

In this case, Mr. Bernard T. Perry, witness for Urban Co., provided a coincidental peak demand method to more directly assign costs to fire protection service as opposed to the residual assignment of costs that result from the method used by Kentucky-American in the last case. Mr. Jones updated

the cost of service study presented in Case No. 8571. His update was accomplished by using test year financial and accounting information.

The Commission finds some merit to Mr. Perry's attempt to develop a more direct assignment of costs to fire protection service. However, it should be noted that the calculation used to determine the fire service peak responsibility is dependent upon several assumptions. In particular, the Commission finds the assumptions used to estimate the time-of-day demands for various customer classes of the general water service category to be most troublesome. For instance, the fact that the residential, commercial and industrial customer classes are assigned zero demands between the hours of midnight and 6 a.m. indicates a considerable degree of arbitrariness in the assumptions.^{49/} The Commission also has noticed that neither the allocation method presented by Mr. Perry nor the method presented by Mr. Jones utilized the demands which occurred during the test year in updating the demand allocation factors. If these allocation factors were updated, the studies would provide a more current picture of the costs caused by each service category.

For the purposes of revenue allocation and rate design in this case, the Commission is more dependent on the study provided by Kentucky-American than that provided by Urban Co. However, the Commission also recognizes its other rate-making objectives of rate continuity, gradual imple-

mentation of strict cost based rates, understandability and revenue stability in its determinations.

RATE DESIGN

Kentucky-American proposed customer charges, general water service, and fire protection service rates based on the cost of service information filed in this case. Kentucky-American also proposed to implement a returned check charge. The Commission finds no objection to the latter proposal and will approve it as filed by Kentucky-American.

In Case No. 8571, Kentucky-American proposed revenue from fire protection service that the Commission found excessive and reduced. In this case, Kentucky-American proposed to increase revenue from fire protection service 53.59 percent. The Commission will allow a revenue increase of about 15 percent, using Kentucky-American's cost of service study as a guide to the allocation of revenue requirement, but not strictly adhering to it. The Commission is of the opinion that Kentucky-American's allocation of operating income to fire protection service should be limited to the return on net investment allowed in this case. This results in a lower revenue increase to fire protection service than would be otherwise necessary and is consistent with the Commission's general policy of gradually introducing cost based rates.

Likewise, the Commission is of the opinion that the allocation of operating income to customer charges should be limited to the return on net investment allowed in this case, and has adjusted the revenue requirement accordingly.

Limiting the allocation of operating income to fire protection service and customer charges to the return on net investment allowed in this case necessarily results in a greater allocation of revenue requirement to general water service than would result from the strict use of Kentucky-American's allocation of operating income. This is reflected in the general water service rates authorized in Appendix A, which, in combination with the authorized fire protection service rates and customers charges, are designed to yield the additional revenue authorized in this Order.

Also, in Case No. 8571, the Commission expressed the opinion that general water service usage rates were not appropriately priced. Specifically, the Commission was of the opinion that rate steps 1 and 2 were priced above relevant costs, while rate step 3 was priced below relevant costs. The Commission is still of this opinion, based on its rate computations, which generally follow Kentucky-American's method. Furthermore, the Commission is still of the opinion that Kentucky-American's 3-step declining block rate schedule could be further collapsed and indeed, that a declining block rate schedule is not the most appropriate rate design to complement Kentucky-American's base-demand cost of service methodology.

SUMMARY

The Commission, after consideration of 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 to be charged for water service by Kentucky-American.

2. The rates allowed in this matter on a test period basis will permit Kentucky-American to cover its operating expenses, pay its interest and provide for a reasonable dividend and a reasonable amount of surplus for equity growth.

3. The rates proposed by Kentucky-American produce annual revenues in excess of those found reasonable herein and should be denied upon application of KRS 278.030.


IT IS THEREFORE ORDERED that the proposed rates sought by Kentucky-American be and they hereby are denied upon application of KRS 278.030.


IT IS FURTHER ORDERED that the rates in Appendix A be and they hereby are approved as the fair, just and reasonable rates for water service rendered by Kentucky-American on and after December 20, 1983.

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

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

PUBLIC SERVICE COMMISSION


Chairman


Vice Chairman


Commissioner

ATTEST:

Secretary

FOOTNOTES

1. Application, Exhibit 3, Schedule 1.
2. $\$6,760,728 \div 6 = \$1,126,788 - \$1,144,350 = (\$17,212)$.
3. Application, Exhibit 5, Schedule 1.
4. Edgemon Testimony, page 11.
5. Larkin Testimony, pages 2 and 3.
6. Application, Exhibit 4, Schedule 1, page 1.
7. Ibid.
8. Refer to AG Request No. 1, Response 54, Subpoint 18.
9. Edgemon Testimony, Page 7.
10. Transcript of Evidence ("T.E."), October 6, 1983, page 108.
11. Post-Hearing Response to Staff Request, Filed 10/20/83, Exhibit G.
12. Calculation of depreciation on contributed property using Kentucky-American's present rates:

<u>Account</u>	<u>Amount</u>	<u>Rate</u>	<u>Depreciation</u>
343	\$2,411,706	.91	\$21,947
345	1,055,955	2.00	21,119
346	6,363	1.70	108
347	82,079	2.00	1,641
348	92,681	1.00	927
	<u>\$3,648,784</u>		<u>\$45,742*</u>
			<u>205</u>
			<u>\$45,947</u>

* \$205 = property at 9/15/27 as per response filed October 31, 1983, X composite depreciation rate (1.44%) = \$205.

13. Larkin Testimony, page 8.
14. Response to Staff request No. 1, Item 16, and T.E., pages 88-89.
15. T.E., page 89.
16. T.E., page 88.
17. T.E., page 34.

18. T.E., pages 69-70.
19. Camp, Dresser, McKee Report, page 23.
20. Application, Exhibit 4, Schedule 12.
21. T.E., page 6.
22. Calculation: $(.3966 - .3346) = .062$ cents X
39,132,912 kwh (usage for test period as per letter
dated 11/30/83) = \$24,262.
23. Response to Staff Request No. 3, Item 3, page 3.
24. T.E., pages 28-29, 58-59.
25. T.E., page 180.
26. Application, Exhibit 4, Schedule 5.
27. $\$6,406,282 - (\$2,128,191 + \$221,890 + \$260,860) =$
 $\$3,795,521 \div 12,760,799 = 29.7\%$.
28. Response to Staff request No. 3, Item 8.
29. Letter from Kentucky-American filed 11/18/83.
30. AG's brief, page 6.
31. T.E., pages 167-168.
32. Post-Hearing Response to Staff Request filed 10/20/83,
Exhibit B.
33. $\$26,537,869 \times .0945 = \$2,507,829 - \$2,337,834 =$
 $\$169,995 + \88 (Other Interest Expense) = $\$170,083 \times$
 $.4924 = \$83,749$.
34. Application, Exhibit 5, Schedule 2.
35. Ibid., Schedule 3.
36. Larkin Testimony, page 3.
37. Kentucky-American's Brief, page 7.
38. Edgemon Testimony, Appendix 1, page 1.
39. Ibid., page 16.
40. Ibid., page 21
41. T.E., page 187.

42. Larkin Testimony, page 3.
43. AG's Brief, page 10.
44. Ibid.
45. Urban Co.'s Brief, page 11.
46. $\$356,852 \times 1.9722 = \$703,606 + \$737 \text{ (PSC Fee)} = \$704,343.$
47. Commission's Order, Case No. 8571, page 29.
48. Ibid., pages 27-28.
49. Perry Testimony, Exhibit D.

APPENDIX A

APPENDIX TO AN ORDER OF THE PUBLIC SERVICE
COMMISSION IN CASE NO. 8836 DATED December 20, 1983.

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

CLASSIFICATION OF SERVICE

SERVICE CLASSIFICATION NO. 1

METER RATES

The following shall be the rates for consumption, in addition to the service charges provided for herein:

	<u>1000 Gallons Per Month</u>	<u>Rates Per 1000 Gallons</u>	<u>100 Cubic Feet Per Month</u>	<u>Rate Per 100 Cubic Feet</u>
For the first	12	\$1.157333	16	\$0.868
For the next	588	0.921333	784	0.691
For all over	600	0.834666	800	0.626

	<u>1000 Gallons Per Month</u>	<u>Rates Per 1000 Gallons</u>	<u>100 Cubic Feet Per Month</u>	<u>Rate Per 100 Cubic Feet</u>
For the first	36	\$1.157333	48	\$0.868
For the next	1,764	0.921333	2,352	0.691
For all over	1,800	0.834666	2,400	0.626

SERVICE CHARGES

All metered general water service customers shall pay a service charge based on the size of meter installed. The service charge will not entitle the customer to any water.

<u>Size of Meter</u>	<u>Service Charge</u>	
	<u>Per Month</u>	<u>Per Quarter</u>
5/8"	\$ 3.84	\$ 11.52
3/4"	5.76	17.28
1"	9.60	28.80
1 1/2"	19.20	57.60
2"	30.72	92.16
3"	57.60	172.80
4"	96.00	288.00
6"	192.00	576.00
8"	307.20	921.60

SERVICE CLASSIFICATION NO. 3

RATES

<u>Size of Service</u>	<u>Rate Per Month</u>	<u>Rate Per Annum</u>
4" Diameter	\$ 7.33	\$ 87.96
6" Diameter	16.50	198.00
8" Diameter	29.34	352.08
12" Diameter	66.00	792.00

SERVICE CLASSIFICATION NO. 4

RATES FOR PUBLIC FIRE SERVICE

	<u>Rate Per Month</u>	<u>Rate Per Annum</u>
For each public fire hydrant contracted for or ordered by Urban County, County, State, or Federal Government Agencies or Institutions	\$ 16.50	\$198.00

RATES FOR PRIVATE FIRE STATION

	<u>Rate Per Month</u>	<u>Rate Per Annum</u>
For each private fire hydrant contracted for by Industries or Private Institutions	\$ 16.50	\$198.00

RETURNED CHECK CHARGE

In those instances where a customer renders payment to the Company by check which is not honored upon deposit by the Company, the customer will be charged \$9.00 to cover the additional processing costs.