

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WEST DAVIESS COUNTY)	
WATER DISTRICT FOR RATE ADJUSTMENT AND)	CASE NO. 1999-269
NEW TARIFF RATES)	

ORDER

Commission Staff has amended its report of findings and recommendations regarding West Daviess County Water District's proposed rate adjustment. Commission Staff's amendments are appended hereto. Finding that the parties should be afforded an opportunity to review and comment upon the amended Commission Staff Report, the Commission, on its own motion, HEREBY ORDERS that:

1. All parties shall, no later than 10 days from the date of this Order, submit their written comments on the Amended Staff Report or request for hearing or informal conference. If West Daviess wishes to amend its application for rate adjustment to produce the revenue levels that Commission Staff recommends, it shall submit such amendment when submitting its comments.

2. Should West Daviess amend its application to request rates other than those set forth in its original application, it shall notify its customers of the requested rates in accordance with Administrative Regulation 807 KAR 5:011, Section 8.

3. If no request for a hearing or informal conference is received within 10 days from the date of this Order, this case shall stand submitted to the Commission for decision.

Done at Frankfort, Kentucky, this 12th day of April, 2000.

By the Commission

ATTEST:

Deputy W. H. Bowen
Executive Director

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AMENDMENT TO COMMISSION
STAFF REPORT

Commission Staff hereby amends those portions of its Report, appended to the Commission's Order of March 23, 2000, that address West Daviess County Water District's cost-of-service. More specifically, Commission Staff substitutes the documents appended hereto for Attachment E; Sheets 9, 11, 12, and 13 of Attachment F; and Sheets 5, 7, 8, and 9 of Attachment G.

Renee Curry
Public Utilities Rate Analyst
Communications, Water and Sewer
Rate Design Branch
Division of Financial Analysis

ATTACHMENT E
STAFF REPORT CASE NO. 1999-269
STAFF'S DISCUSSIONS ON THE
COST OF SERVICE STUDY

Current Rate Design. West Daviess County's current retail rate design is a 5-step declining block schedule, with usage increments of 2,000 gallons, 8,000 gallons, 10,000 gallons, 20,000 gallons, and over 40,000 gallons. West Daviess also has a non-user charge that it assesses to all customers who do not use any water during any given month.

West Daviess submitted a proposal to reduce its 5-step declining block rate schedule to a 2-step declining block rate schedule with usage allowance of 2,000 gallons and over 2,000 gallons. West Daviess' proposal would increase each rate step, on the average, approximately 23 percent. West Daviess proposed to maintain its current non-user rate.

West Daviess has a flat per 1,000 gallon wholesale rate. West Daviess did not propose to increase the wholesale rate.

No cost of service study has ever been prepared for this utility. A cost of service study is necessary to allocate expenses to customers in proportion with the cost of providing service. Commission Staff prepared a cost of service study for West Daviess and has attached this study as Attachment F.

Wholesale Rate. The first step in preparing the cost of service study was to determine the wholesale rate. During 1998, West Daviess sold water to the McLean County Water District ("McLean County") and Beech Grove Water District ("Beech Grove"). Commission Staff first determined the amount of water produced and sold shown at Sheet 1. West Daviess sold 17,394,000 gallons to Beech Grove and 6,306,000 gallons to McLean County. West Daviess reported line loss of 16.35.

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Commission staff then allocated the inch miles of lines that were jointly used by West Daviess and its wholesale customers. Since West Daviess no longer sells water to Beech Grove, Commission Staff based the inch mile allocations using McLean County as the only wholesale customer to determine an allocation factor in order to allocate water transmission cost.

The wholesale allocation factors shown at Sheet 2 were determined based on the ratio of sales to McLean County to total sales (excluding Beech Grove) and the ratio of total system miles of line to the jointly used miles of line. A water production allocation factor of .0186, a pipeline transmission factor of .0030, and a use factor of .0211 were determined to be the factors to be used in allocating costs to the wholesale customer.

Staff's allocation of wholesale costs (Sheet 3) shows the total cost of West Daviess, the allocation factor used to allocate each cost, and the dollar amount allocated to the wholesale customer. The wholesale costs are then subtracted from the total cost to determine the cost to be paid by the retail customers. The wholesale costs are then divided by the total gallons sold to the wholesale customer to determine the wholesale rate. Based upon Staff's cost of service study, the rate for the wholesale customer should be \$1.91 per 1,000 gallons.

Retail Rates. Staff has used the commodity demand methodology as set out in the American Water Works Association's ("AWWA") Manual M-1 in preparing the cost of service study for West Daviess' retail customers. This study recognizes that a utility must be prepared for meeting peak demand requirements as well as average water use

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needs. In other words, a system must be sized to meet the demand of the residential customers who tend to place a larger demand on the system than very large customers. The large consumers use water throughout the day and night and generally place a smaller demand on the system than residential customers who use water for a few hours each day.

The commodity demand method allocates costs into either commodity, demand or customer functions. Commodity costs are those costs that vary directly with the quantity of water produced such as chemicals, purchased water, and purchased power. Demand costs are associated with providing facilities to meet the peak demands placed on the system. These costs include transmission and distribution costs. Customer costs are those costs associated with serving the customers regardless of the amount of water used. These costs include meter reading and billing and collecting.

Allocation of plant value, shown at Sheet 4, allocates plant value into demand or customer components. No plant value is allocated to commodity since the value does not change with the amount of produced water. Sheet 5 shows allocation of depreciation. Sheet 6 shows the allocation of expenses to the functional cost components. Administrative and general expenses are allocated to the cost components based on the subtotal of all other expenses, excluding commodity costs. Depreciation expense is based on the percentages shown in sheet 5. Debt Service is based on the allocation of plant value as shown on Sheet 4.

Once operating and maintenance expense has been allocated, all other expenses and income must be allocated to the functional categories. Sheet 7 is the

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allocation of expenses and other revenue based on West Daviess' revenue requirement (Sheet 6). Sheet 7 shows that \$429,972 should be collected from the commodity category, \$397,439 from the demand category, and \$77,191 from the customer charge.

After costs have been allocated by function, a billing analysis must be reviewed to study the usage patterns of the customers of a utility. The usage patterns of West Daviess' retail customers are shown at Sheet 8.

Based on West Daviess' customer usage patterns, the current rate schedule has been changed to allow a first 20,000 gallon rate and a rate for all usage in excess of 20,000 gallons. West Daviess proposed to keep a non-user charge for customers who did not use water in any given month. Commission Staff recommends that the non-user charge be removed and that the non-users be treated in the same manner as the other retail customers. This will ensure that the non-users pay their share of customer costs.

Based upon the allocations, the rates produced would be \$2.99 per 1,000 gallons for the first 20,000 gallons, and 2.23 per 1,000 gallons for all usage over 20,000 gallons. In addition to this rate structure, each customer would pay a customer charge based on meter size to recover the costs in the customer component.

West Daviess proposed a monthly fee for customers with 1 1/2 and 2 inch meters based on the cost of replacing these meters every 10 years due to testing requirements. Staff determined that it would be more appropriate to base the customer charge on the size of the meter. The customer charge calculations and rates for each meter size is shown at Sheet 10. The calculations produce the following monthly customer charges with no usage allowances: 5/8 inch meter - \$1.49; 1 inch meter - \$3.73; 1 1/2 inch meter

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- \$7.46; and 2 inch meter - \$14.93. Sheet 11 is a verification schedule showing that the rates produced by the cost of service study will in fact produce the correct amount of revenue. Sheet 12 is a comparison of West Daviess' current rates and the cost of service rates. This comparison shows that most of West Daviess' customers will receive a slight increase.

Sheet 13 shows Staff's recommended rates.

Attachment G is a cost of service study for West Daviess Water District performed in the same manner as the study at Attachment F. The only difference in this cost of service study is that it allows for full depreciation in the amount of \$105,796. In Attachment F, depreciation was decreased by \$10,907, from \$105,796 to \$94,889 in order to achieve the utility requested revenue.

CALCULATION OF RETAIL WATER RATES
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	Total	First 20,000	Over 20,000
Actual Water Sales:			
Thousand Gallons	292,366,070	232,123,840	60,242,230
	100.00%	79.39%	20.61%
Weighted Sales for Demand:			
Thousand Gallons	524,489,910	464,247,680	60,242,230
Percent	100.00%	88.51%	11.49%
Allocation of Volumetric Costs:			
Commodity	\$429,974	\$341,356	\$88,618
Demand	397,439	351,773	45,666
Customer	77,191		
Total	\$904,604	\$693,129	\$134,284
Number of Bills		42,336	
Proposed Rates		\$2.99	\$2.23

VERIFICATION OF RATES

	Bills	Gallons	Rate	Revenue
Customer Charge				\$77,082.72
First 20,000 gallons		232,123,840	2.99	694,050.28
Over 20,000 gallons		60,242,230	2.22	133,737.75
Total Retail Revenue				\$904,870.75
Wholesale Revenue		6,306,000	1.91	12,044.46
Total Revenue from Rates				916,915.21
Interest Income				37,256.00
Nonutility Income				500.00
Forfeited Discounts				12,570.00
Miscellaneous Service				8,340.00
Other Water Revenue				5,810
Total Revenue		298,672,070		\$981,391.21

Over 20,000 gallons rate reduced .01 to obtain revenue requirement.

COMPARISON OF RETAIL RATES

Gallon Usage	Current Rates	Cost of Service Rates	Cost of Service with customer charge	Increase	Percentage
1000	\$6.64	\$2.99	\$4.48	-\$2.16	-32.53%
2000	6.64	5.98	7.47	0.83	12.50%
3000	9.16	8.97	10.46	1.30	14.19%
4000	11.68	11.96	13.45	1.77	15.15%
5000	14.20	14.95	16.44	2.24	15.77%
6000	16.72	17.94	19.43	2.71	16.21%
7000	19.24	20.93	22.42	3.18	16.53%
8000	21.76	23.92	25.41	3.65	16.77%
9000	24.28	26.91	28.40	4.12	16.97%
10000	26.80	29.90	31.39	4.59	17.13%
12000	31.04	35.88	37.37	6.33	20.39%
20000	48.00	59.80	61.29	13.29	27.69%
25000	57.85	70.90	72.39	14.54	25.13%
30000	67.70	82.00	83.49	15.79	23.32%
35000	77.55	93.10	94.59	17.04	21.97%
50000	106.60	126.40	127.89	21.29	19.97%
75000	154.60	181.90	183.39	28.79	18.62%
100000	202.60	237.40	238.89	36.29	17.91%
200000	394.60	459.40	460.89	66.29	16.80%
300000	586.60	681.40	682.89	96.29	16.41%
500000	970.60	1,125.40	1,126.89	156.29	16.10%
1000000	1,930.60	2,235.40	2,236.89	306.29	15.87%

West Daviess County Water District Recommended Rates

Monthly Water Rates

~~5/8 inch x 3/4 inch meter~~

Customer Charge	\$1.49 per month
First 20,000 gallons	2.99 per 1,000 gallons
Over 20,000 gallons	2.22 per 1,000 gallons

~~1 inch meter~~

Customer Charge	\$3.73 per month
First 20,000 gallons	2.99 per 1,000 gallons
Over 20,000 gallons	2.22 per 1,000 gallons

~~1 1/2 inch meter~~

Customer Charge	\$7.46 per month
First 20,000 gallons	2.99 per 1,000 gallons
Over 20,000 gallons	2.22 per 1,000 gallons

~~2 inch meter~~

Customer Charge	\$14.93 per month
First 20,000 gallons	2.99 per 1,000 gallons
Over 20,000 gallons	2.22 per 1,000 gallons

~~Wholesale~~

\$1.91 per 1,000 gallons

CALCULATION OF RETAIL WATER RATES

Staff Revenue Requirement

	Total	First 20,000	Over 20,000
Actual Water Sales:			
Thousand Gallons	292,366,070	232,123,840	60,242,230
	100.00%	79.39%	20.61%
Weighted Sales for Demand:			
Thousand Gallons	524,489,910	464,247,680	60,242,230
Percent	100.00%	88.51%	11.49%
Allocation of Volumetric Costs:			
Commodity	\$429,974	\$341,356	\$88,618
Demand	405,574	358,974	46,600
Customer	79,921		
Total	\$915,469	\$700,330	\$135,218
Number of Bills		42,336	
Proposed Rates		\$3.02	\$2.24

VERIFICATION OF RATES

Staff Revenue Requirement

	Bills	Gallons	Rate	Revenue
Customer Charge				\$80,089.32
First 20,000 gallons		232,123,840	3.02	701,014.00
Over 20,000 gallons		60,242,230	2.24	134,942.60
Total Retail Revenue				\$916,045.92
Wholesale Revenue		6,306,000	1.92	12,107.52
Total Revenue from Rates				928,153.44
Interest Income				37,256.00
Nonutility Income				500.00
Forfeited Discounts				12,570.00
Miscellaneous Service				8,340.00
Other Water Revenue				5,810
Total Revenue		298,672,070		\$992,629.44

COMPARISON OF RETAIL RATES

Staff Revenue Requirement

Gallon Usage	Current Rates	Cost of Service Rates	Cost of Service with customer charge	Increase	Percentage
1000	\$6.64	\$3.02	\$4.57	-\$2.07	-31.17%
2000	6.64	6.04	\$7.59	0.95	14.31%
3000	9.16	9.06	\$10.61	1.45	15.83%
4000	11.68	12.08	\$13.63	1.95	16.70%
5000	14.20	15.10	\$16.65	2.45	17.25%
6000	16.72	18.12	\$19.67	2.95	17.64%
7000	19.24	21.14	\$22.69	3.45	17.93%
8000	21.76	24.16	\$25.71	3.95	18.15%
9000	24.28	27.18	\$28.73	4.45	18.33%
10000	26.80	30.20	\$31.75	4.95	18.47%
12000	31.04	36.24	\$37.79	6.75	21.75%
20000	48.00	60.40	\$61.95	13.95	29.06%
25000	57.85	71.60	\$73.15	15.30	26.45%
30000	67.70	82.80	\$84.35	16.65	24.59%
35000	77.55	94.00	\$95.55	18.00	23.21%
50000	106.60	127.60	\$129.15	22.55	21.15%
75000	154.60	183.60	\$185.15	30.55	19.76%
100000	202.60	239.60	\$241.15	38.55	19.03%
200000	394.60	463.60	\$465.15	70.55	17.88%
300000	586.60	687.60	\$689.15	102.55	17.48%
500000	970.60	1,135.60	\$1,137.15	166.55	17.16%
1000000	1,930.60	2,255.60	\$2,257.15	326.55	16.91%

**West Daviess County Water District
Recommended Rates
Staff Revenue Requirement**

Monthly Water Rates

5/8 inch x 3/4 inch meter

Customer Charge	\$1.55 per month
First 20,000 gallons	3.02 per 1,000 gallons
Over 20,000 gallons	2.24 per 1,000 gallons

1 inch meter

Customer Charge	\$3.86 per month
First 20,000 gallons	3.02 per 1,000 gallons
Over 20,000 gallons	2.24 per 1,000 gallons

1 1/2 inch meter

Customer Charge	\$7.73 per month
First 20,000 gallons	3.02 per 1,000 gallons
Over 20,000 gallons	2.24 per 1,000 gallons

2 inch meter

Customer Charge	\$15.45 per month
First 20,000 gallons	3.02 per 1,000 gallons
Over 20,000 gallons	2.24 per 1,000 gallons

Wholesale	\$1.92 per 1,000 gallons
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