

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WEST DAVIESS)
COUNTY WATER DISTRICT FOR RATE) CASE NO. 99-269
ADJUSTMENT AND NEW TARIFF RATES)

ORDER

On August 3, 1999, West Daviess County Water District ("West Daviess") filed its application for Commission approval of proposed water rates. Commission Staff ("Staff"), having performed a limited financial review of West Daviess' operations, has prepared the attached report containing Staff's findings and recommendations regarding the proposed rates. All parties should review the report carefully and submit any written comments on Staff's findings and recommendations or requests for a hearing or informal conference no later than 10 days from the date of this Order.

IT IS THEREFORE ORDERED that:

1. All parties shall, no later than 10 days from the date of this Order, submit their written comments on the attached Staff Report or request for hearing or informal conference. If West Daviess wishes to amend its application to reflect the rates or to phase in the rates that will generate Staff's optimum revenue requirement and that differ from those in its application, it shall submit such amendment when filing its comments.
2. If West Daviess should choose to amend its application to reflect rates that differ from those in its application, West Daviess should notify its customers of the amended rate proposal in accordance with 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 23rd day of March, 2000.

By the Commission

ATTEST:


Executive Director

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WEST DAVIESS)
COUNTY WATER DISTRICT FOR RATE) CASE NO. 99-269
ADJUSTMENT AND NEW TARIFF RATES)

STAFF REPORT

Prepared by: Mark C. Frost
Public Utilities Financial Analyst
Water and Sewer Revenue
Requirements Branch
Division of Financial Analysis

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

STAFF REPORT
ON
WEST DAVIESS COUNTY WATER DISTRICT
CASE NO. 99-269

On June 18 1999, the West Daviess County Water District ("West Daviess") filed its application seeking to increase its rates pursuant to 807 KAR 5:001(10). However, due to filing deficiencies, West Daviess' application was not considered filed until August 3, 1999.

In order to evaluate the requested rate increase, the Commission Staff ("Staff") performed a limited review of West Daviess' test-period operations, the year ending December 31, 1998. The scope of Staff's review was limited to obtaining information as to whether the test-period operating revenues and expenses were representative of normal operations. Insignificant or immaterial discrepancies were not pursued and are not addressed herein.

Mark Frost and Renee Curry of the Commission's Division of Financial Analysis performed the review on October 13 and 14, 1999. Mr. Frost is responsible for the preparation of this Staff Report except for the determination of normalized operating revenue and Attachments E, F, and G, which were prepared by Ms. Curry.

West Daviess did not propose to adjust its test-period operating revenues or expenses in the application. Based upon Staff's recommendations, West Daviess' operating statement would appear as set forth in Attachment A and Attachment B is Staff's discussions on its proposed pro forma adjustments.

West Daviess' proposed rates would produce a revenue requirement of \$916,655,¹ \$126,648 above Staff's normalized test-period revenue from water rates of \$790,008. Using its recommended pro forma operations and a 1.2 Debt Service Coverage, Staff determined that West Daviess' minimum and optimum revenue requirement range is from \$821,766 to \$927,562, as shown in Attachment C.

The minimum revenue requirement of \$821,766 will permit West Daviess to meet its adjusted test-period operating expenses (excluding depreciation expense) and the minimum debt service requirements of its long-term debt instruments. The optimum revenue requirement of \$927,562 will allow West Daviess to meet its adjusted test-period operating expenses including depreciation expense and the minimum debt service requirements of its long-term debt instruments.

Since West Daviess' requested revenue requirement is within the acceptable range and it produces a positive cash flow of \$113,414, as computed in Attachment D, Staff recommends that West Daviess' proposed increase of \$126,648 be accepted. Attachment E is the discussion of Staff's cost of service study. The rates contained in the cost of service study in Attachment F will achieve the requested revenue requirement of increase of \$916,655. Those contained in the cost of service study in Attachment G will achieve the optimum revenue requirement of \$927,562.

¹ Appendix C of the Application, Rate Analysis.

Signatures

Prepared by: Mark C. Frost
Public Utilities Financial Analyst
Water and Sewer Revenue
Requirements Branch
Division of Financial Analysis

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

ATTACHMENT A
STAFF REPORT CASE NO 1999-269
STAFF'S RECOMMENDED
PRO FORMA OPERATIONS

	Test-Period Operations	Pro Forma Adjustments	Adj Ref	Pro Forma Operations
<u>Operating Revenues:</u>				
Water Sales	\$ 816,889	\$ (26,881)	b	\$ 790,008
Forfeited Discounts	12,570	0		12,570
Miscellaneous Service	8,340	0		8,340
Other Water Revenues	5,810	0		5,810
Total Operating Revenues	\$ 843,609	\$ (26,881)		\$ 816,728
<u>Operating Expenses:</u>				
<u>Operation & Maintenance:</u>				
Salaries & Wages	\$ 148,946	\$ 13,923	c	\$ 162,869
Employee Benefits	43,688	9,826	d	53,514
Purchased Water	458,308	(32,085)	e	426,223
Purchased Power	14,020	0		14,020
Materials & Supplies	68,784	(8,312)	f	60,472
Contractual Services - Eng.	1,226	0		1,226
Contractual Services - Acct.	3,150	0		3,150
Rental – Building/Real. Property	3,594	0		3,594
Transportation Expenses	5,710	0		5,710
Insurance – General Liability	9,081	0		9,081
Insurance – Workers Comp.	5,308	(825)	g	4,483
Advertising	305	0		305
Bad Debt	3,307	0		3,307
Miscellaneous	13,147	0		13,147
Total Operation & Maintenance	\$ 778,574	\$ (17,473)		\$ 761,101
Depreciation	104,965	831	h	105,796
Amortization	0	0	i	0
Taxes Other Than Income	12,647	1,342	j	13,989
Utility Operating Expenses	\$ 896,186	\$ (15,300)		\$ 880,886
Net Utility Operating Income	\$ (52,577)	\$ (11,581)		\$ (64,158)
<u>Other Income & Deductions:</u>				
Interest Income	37,256	0		37,256
Nonutility Income	500	0		500
Net Income Available for Debt Service	\$ (14,821)	\$ (11,581)		\$ (26,402)

ATTACHMENT B
STAFF REPORT CASE NO. 1999-269
STAFF'S DISCUSSIONS ON THE
PRO FORMA ADJUSTMENTS

(a) Expense Allocations. West Daviess and the Southeast Daviess County Water District ("Southeast Daviess") are operated from the same office. Currently several of the shared operating expenses are allocated at a ratio of 45 percent to West Daviess and 55 percent to Southeast Daviess. To test the reasonableness of the allocation ratios, Staff compared them to following allocation factors:

	<u>Southeast Daviess</u>	<u>West Daviess</u>
Customers	59%	41%
Gross Operating Revenues	58%	42%
Utility Plant In Service	50%	50%
Average of Above Ratios	55%	45%

Staff's comparison showed that West Daviess' 45 percent allocation ratio equals the average of the ratios it reviewed. For this reason West Daviess' 45 percent allocation is reasonable and should be used for rate-making purposes.

(b) Operating Revenues – Water Sales. The 1998 annual report showed that West Daviess' annual revenue from water sales was \$816,889 and its total operating revenue was \$843,609. Staff's billing analysis showed total revenue from water sales for the 1998 test year was \$808,996. Staff then normalized rates for West Daviess' mid-year rate increase in 1998 and the loss of Beech Grove Water District as a wholesale customer. For the purposes of this report, West Daviess' normalized revenue from water sales will be \$790,008 and its total normalized operating revenue will be \$816,728.

ATTACHMENT B
STAFF REPORT CASE NO. 1999-269
STAFF'S DISCUSSIONS ON THE
PRO FORMA ADJUSTMENTS

(c) Salaries & Wages. West Daviess' test-period level of salaries and wages expense was \$148,946. Currently Southeast and West Daviess have 11 employees with a total annual payroll of \$345,928. Based upon the 45 percent allocation factor, West Daviess' portion of the payroll would be \$155,668.² When the allocated payroll of \$155,668 is combined with the annual commissioner fees of \$7,200³ it results in a pro forma salaries and wages expense of \$162,868. Accordingly, salaries and wages expense has been increased by \$13,923 to reflect the pro forma level.

(d) Employee Benefits. West Daviess' test-period employee benefits expense of \$43,688 included \$30,885 for employee insurance. The current cost of the employee insurance benefit package is \$6,739 per month or \$80,868 annually. Using the 45 percent allocation factor, Staff determined that West Daviess share is \$36,391,⁴ \$5,506 above the test-period level.

Another component of the employee benefits expense was West Daviess' contribution to its employee pension plan in the amount of \$12,803. Applying the 11 percent employer contribution rate to the recommended salaries and wages expense results in a pro forma pension contribution of \$17,123,⁵ \$4,320 above the test-period level.

² $\$345,928 \times 45\% = \$155,668.$

³ $\$2,400 \text{ (Annual Commissioner Fee)} \times 3 \text{ (Commissioners)} = \$7,200.$

⁴ $\$80,868 \times 45\% = \$36,391.$

⁵ $\$155,668 \times 11\% = \$17,123.$

ATTACHMENT B
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STAFF'S DISCUSSIONS ON THE
PRO FORMA ADJUSTMENTS

The aforementioned adjustments to the employee benefits expense results in an overall increase of \$9,826.

(e) Purchased Water. West Daviess' test-period level of purchased water expense was \$458,308. As previously mentioned, Beech Grove has discontinued purchasing its water from West Daviess. Also in 1998, West Daviess' test-period line loss was 16.349 percent, which exceeds the Commission's allowable limit of 15 percent.⁶

After it excluded water sales to the Beech Grove and limited line loss to 15 percent, Staff arrived at the allowable test-period level of water purchases of 351,378,906⁷ gallons, which when multiplied by the Owensboro Water Utility wholesale rate, results in a pro forma purchased water expense of \$426,223.⁸ Accordingly, purchased water expense has been increased by \$32,085.

(f) Materials and Supplies. During the test-period West Daviess reported materials and supplies expense of \$68,784. After reviewing the invoices, Staff determined that the following items should be capitalized and depreciated for rate making purposes:

⁶ 807 KAR 5:066, Section 6(3) limits line loss for rate purposes to 15%.

⁷ Water Sales – Billing Analysis	316,066,070 Gallons
Less: Water Sales – Beech Grove	<u>- 17,394,000</u> Gallons
Pro Forma Water Sales	298,672,070 Gallons
Divided by: Line Loss Reciprocal (1-15%)	÷ <u>85%</u>
Allowable Water Purchases	<u>351,378,906</u> Gallons

⁸ 351,378.906 (Gallons) x \$1.213 (Rate per 1,000 Gal.) = \$426,223.

ATTACHMENT B
STAFF REPORT CASE NO. 1999-269
STAFF'S DISCUSSIONS ON THE
PRO FORMA ADJUSTMENTS

<u>Vendor</u>	<u>Description</u>	<u>Amount</u>
C.I. Thornburg	83 Meters - New Services	\$ 2,947
C.I. Thornburg	8" Turbo Meter	\$ 4,234
Trogdon Service Co.	Bores, Line Tapps, & Meter Sets	\$ 1,131

Staff has reduced materials and supplies expense by \$8,312 to eliminate these items from test-period operations. A provision for the recovery of the capital expenditures is included in the depreciation expense adjustment.

(g) Workers Compensation. West Daviess reported workers compensation insurance expense of \$5,308 for the test-period. Using the recommended level of salary expense and the current workers compensation premiums, Staff determined that the pro forma level of this expense is \$4,483. Accordingly, workers compensation insurance expense has been decreased by \$825.

(h) Depreciation Expense. Staff adjusted test-period depreciation by \$831 to reflect depreciating the items capitalized in the materials and supplies section of this attachment over their estimated useful lives:

<u>Description</u>	<u>Cost</u>	<u>Lives</u>	<u>Depreciation Expense</u>
Meter	\$ 2,947	10 Years	\$ 295
8" Turbo-Meter	\$ 4,234	10 Years	\$ 423
Bores, Line Tapps, & Set Meters	\$ 1,131	10 Years	\$ 113

(i) Payroll Taxes. West Daviess' test-period payroll tax expense was \$11,117. Staff has adjusted payroll tax expense by \$1,342 to reflect a pro forma level of \$12,459.⁹ This proposed adjustment is based upon the current FICA and

⁹ \$162,869 x 7.65% = \$12,459.

ATTACHMENT B
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STAFF'S DISCUSSIONS ON THE
PRO FORMA ADJUSTMENTS

Medicare tax rates multiplied by the recommended level of salaries and wages expense.

ATTACHMENT C
 STAFF REPORT CASE NO. 1999-269
 STAFF'S DETERMINATION OF THE
 MINIMUM AND MAXIMUM
 REVENUE REQUIREMENT

	<u>Minimum</u>	<u>Optimum</u>
Principal - Bond Payment	\$ 66,667	\$ 66,667
Interest Expense	25,960	25,960
	<hr/>	<hr/>
Debt Service	\$ 92,627	\$ 92,627
Multiplied by: Debt Service Coverage		
Debt Service Coverage	1.2	1.2
	<hr/>	<hr/>
Income From Operations	\$ 111,152	\$ 111,152
Add:		
Operating Expenses	761,101	761,101
Depreciation	0	105,796
Amortization	0	0
Taxes Other Than Income	13,989	13,989
	<hr/>	<hr/>
Total Revenue Requirement	\$ 886,242	\$ 992,038
Less:		
Interest Income	37,256	37,256
Nonutility Income	500	500
	<hr/>	<hr/>
Revenue Requirement from Operations	\$ 848,486	\$ 954,282
Less:		
Forfeited Discounts	12,570	12,570
Miscellaneous Service	8,340	8,340
Other Water Revenues	5,810	5,810
	<hr/>	<hr/>
Revenue Requirement from Water Sales	\$ 821,766	\$ 927,562
Less:		
Staff Pro Forma Revenue - Water Sales	790,008	790,008
	<hr/>	<hr/>
Requested/Recommended Increase	<u>\$ 31,758</u>	<u>\$ 137,554</u>

ATTACHMENT D
STAFF REPORT CASE NO. 1999-269
DETERMINATION OF CASH FLOW

West Daviess' Proposed Revenue Requirement	\$ 916,656
Add:	
Forfeited Discounts	12,570
Miscellaneous Service	8,340
Other Water Revenues	5,810
Interest Income	37,256
Nonutility Income	500
	<hr/>
Sub-Total	\$ 981,132
Less:	
Operating Expenses	761,101
Taxes Other Than Income	13,989
Debt Service	92,627
	<hr/>
Net Cash Flow	<u><u>\$ 113,415</u></u>

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 which 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

ATTACHMENT E
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STAFF'S DISCUSSIONS ON THE
COST OF SERVICE STUDY

Beech Grove and 6,306,000 gallons to McLean County. West Daviess reported line loss of 16.35.

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

ATTACHMENT E
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COST OF SERVICE STUDY

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 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

ATTACHMENT E
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STAFF'S DISCUSSIONS ON THE
COST OF SERVICE STUDY

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 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' customers usage patterns and its proposed change in rate design, the current rate schedule has been changed to allow a first 2,000 gallon rate and a rate for all usage in excess of 2,000 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 2,000 gallons, and 2.23 per 1,000 gallons for all usage over 2,000 gallons. In addition to this rate structure, each customer would pay a

ATTACHMENT E
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STAFF'S DISCUSSIONS ON THE
COST OF SERVICE STUDY

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 - \$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 decrease. However, the larger users, who have not been paying their share based on the cost of service study, will receive a slight to moderate 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.