COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ADJUSTMENT OF RATES OF THE ) WHITLEY COUNTY WATER DISTRICT )

CASE NO. 2000-001

ORDER

On January 4, 2000, Whitley County Water District No. 1 ("Whitley County")

submitted its application for Commission approval of proposed water rates. The

application was considered filed on March 3, 2000, when all deficiencies were cured.

Commission Staff ("Staff"), having performed a limited financial review of Whitley

County's test period 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 to the Commission 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 all parties shall have 10 days from the date

of this Order to submit written comments regarding the attached Staff Report or to

request for a hearing or informal conference. If no request for a hearing or informal

conference is received within that period, this case will be submitted to the Commission

for a decision.

Done at Frankfort, Kentucky, this 19th dayoof June, 2000.

Male

ATTEST:

By the Commission

Executive Dir**∌c**tor

#### COMMONWEALTH OF KENTUCKY

#### BEFORE THE PUBLIC SERVICE COMISSION

In the Matter of:

AN ADJUSTMENT OF RATES OF THE ) WHITLEY COUNTY WATER DISTRICT )

CASE NO. 2000-001

**STAFF REPORT** 

Prepared by: Karen S. Harrod, CPA 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

#### WHITLEY COUNTY WATER DISTRICT NO. 1

#### CASE NO. 2000-001

On January 4, 2000, Whitley County Water District No. 1 ("Whitley County") submitted its application for Commission approval of proposed water rates. The application was considered filed on March 3, 2000, when all deficiencies were cured. In order to evaluate the requested increase, Commission Staff ("Staff") performed a limited financial review of Whitley County's test period operations, the year ended December 31, 1998.

Karen Harrod, Scott Lawless, and Renee Curry, of the Commission's Division of Financial Analysis, began the review on March 2, 1999. Ms. Harrod is responsible for the preparation of this Staff Report except for the determination of normalized operating revenue and Attachments D and E, which were prepared by Ms. Curry.

A comparison of Whitley County's actual and proposed pro-forma operations is shown in Attachment A. Based on Staff's recommendations Whitley County's operating statement and revenue requirement would appear as set forth in Attachments B and C, respectively.

Whitley County's proposed rates would produce an increase in revenues of \$115,872, or 17.2 percent over normalized test year revenues from water sales. Based on Staff's recommended operations and a 1.2 Debt Service Requirement, Staff calculated Whitley County's revenue requirement to be \$792,502. This results in an increase of \$105,127, or 15.6 percent over normalized test year revenues from water sales, as shown in Attachment C.

Current Rate Design. Whitley County's current rate design is a 4-step declining block schedule with usage increments of 1,000 gallons, 4,000 gallons, 95,000 gallons, and over 100,000 gallons. Whitley County also has two non-metered customers that are billed the rate for the average customer usage of 5,000 gallons each month. Whitley County did not propose to make any changes to its current rate design.

Cost of Service Study. Commission Staff prepared a cost of service study for Whitley County and has attached this study as Attachment D. A cost of service study is necessary to allocate expenses to customers in proportion with the cost of providing service.

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 Whitley County. 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 peak demand on the system than very large customers. The large consumers use water throughout the day and night and generally place a smaller peak 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 collection.

Allocation of plant value, shown at Sheet 1, 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 2 shows allocation of depreciation. Sheet 3 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 allocated based on the percentages shown in Sheet 2. Debt Service is based on the allocation of plant value as shown on Sheet 1.

Once operating and maintenance expense has been allocated, all other expenses and income must be allocated to the functional categories. Sheet 4 is the allocation of expenses and other revenue based on Whitley County's revenue requirement (Sheet 3). Sheet 4 shows that \$330,817 should be collected from the commodity category, \$236,087 from the demand category, and \$210,180 from the customer category.

Based upon the aforementioned allocation of expenses, the rates produced (Sheet 5) are \$14.24 for the first 1,000 gallons; \$5.10 per 1,000 gallons for the next 4,000 gallons; \$4.67 per 1,000 gallons for the next 95,000 gallons; and \$4.25 per 1,000 gallons for all usage in excess of 100,000 gallons. Sheet 6 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 7 is the comparison of Whitley County's current rates and the cost of service rates. This comparison shows that most of Whitley County's

customers will receive a moderate increase. Attachment E is Staff's recommended rates.

Other Issues. Whitley County's office suffered extensive fire damage in January 1999. As a result, the majority of the records for 1998 were destroyed. Mr. Roger Ayers, CPA prepared an audit for 1998, based on the information he was able to salvage from the remaining records. No opinion was expressed on the financial statements resulting from that audit.

The test year used in this rate application is based on the 1998 audit figures. Staff was not able to verify test year operations due to the unavailability of records. However, based on a review of Mr. Ayers workpapers and the few records that were salvaged. Staff has chosen to rely on the 1998 audit for the test year in this proceeding.

Staff anticipates that the recommended rates will generate sufficient revenues to allow the utility to meet all its cash operating expenses and annual debt service requirements for the next three years. However, because of the unusual circumstances surrounding this case, after a two-year period, a limited review of Whitley County's operations should be performed and necessary adjustments, if any, made to ensure that the utility's rates remain adequate. As part of that review, the utility may be required to file additional information.

Commission Staff recommends that the Commission require Whitley County to notify the Commission in writing if, during this two-year period, and prior to the limited review, the revenues generated by the recommended rates become inadequate to meet its cash operating expenses annual debt services requirements.

## **Signatures**

Prepared by: Karen S. Harrod, CPA
Public Utility Financial Analyst
Water and Sower Pevenue

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. 2000-001 WHITLEY COUNTY WATER DISTRICT NO. 1 - REQUESTED OPERATIONS

	Test Year		
	per	Proposed	Proposed
	Annual Report	Adjustments	Test Year
Operating Revenues			
Metered Water Sales	531,840	152,640	684,480
Misc. Service Revenues	16,513	-	16,513
Total Operating Revenues	548,353	152,640	700,993
Operating Expenses			
Purchased Water	292,172	83,419	375,591
Salaries & Wages	116,488	21,623	138,111
Payroll Taxes	9,541	1,562	11,103
Employee Workmen's Comp.	6,142		6,142
Sampling	7,644	1,834	9,478
Insurance	10,762		10,762
Legal & Accounting	279	12,500	12,779
Materials & Supplies	31,167	7,480	38,647
Rents	2,215	532	2,747
Vehicle Expense	10,345	2,483	12,828
Utilities	5,085	1,220	6,305
Miscellaneous	14,089	3,381	17,470
Depreciation Expense	84,446	58,285	142,731
Total Operating Expenses	590,375	194,319	784,694
Utility Operating Income	(42,022)	(41,679)	(83,701)
Interest Income	4,491	-	4,491
Income Available for Debt Service	(37,531)	(41,679)	(79,210)

_	Test Year per Audit	Recommended Adjustments	Ref.	Recommended Test Year
Operating Revenues:				
Total Water Sales	531,840	140,118	(A)	671,958
Other Operating Revenues	16,513	(4,049)	(B)	12,464
- Carlot Operating November	,	(1,010)	(/	
Total Operating Revenues	548,353	136,069		684,422
Operating Expenses:				
Purchased Water	292,172	38,645	(C)	330,817
Salaries & Wages - Employees	116,488	13,684	(D)	130,172
Payroll Taxes	9,541	1,047	(E)	10,588
Insurance - Workers Comp	6,142	-		6,142
Sampling	7,644	-	(F)	7,644
Insurance - General Liability	10,762	-	, ,	10,762
Legal & Accounting	279	12,500	(G)	12,779
Materials & Supplies	31,167	_	(F)	31,167
Rents	2,215	••	(F)	2,215
Vehicle Expense	10,345	-	(F)	10,345
Utilities	5,085	-	(F)	5,085
Miscellaneous Expense	14,089	(11,278)	(F,G)	2,811
Depreciation & Amortization Exp.	84,446	58,275	(H)	142,721
Total Operating Expenses	590,375	112,873		703,248
Operating Income	(42,022)	23,196		(18,826)
Interest Income	4,491	(1,538)	(1)	2,953
Income Available for Debt	•			
Service	(37,531)	21,658		(15,873)

#### (A) Operating Revenues – Water Sales

Because 1998 billing record information was not available, Staff performed its billing analysis using Whitley County's 1997 billing records. Whitley County's 1997 annual report showed annual revenue from water sales in the amount of \$529,654. Staff's billing analysis showed total revenue from water sales for 1997 was \$522,535. Staff then normalized test year revenue for Whitley County for the number of customers at the end of the 1998 test year. For the purposes of this report, Whitley County's normalized revenue from water sales will be \$671,958 (\$522,535 + (413 additional customers x 12 x \$30.15) = \$671,958).

#### (B) Other Operating Revenues

For the test year Whitley County reported Other Operating Revenues of \$16,513. Based on Staff's review of the trial balance and other audit workpapers, it appears that only \$12,465 of this amount should be classified in this account. Whitley County did collect \$12,465 in miscellaneous operating revenues during the test period. Accordingly, Staff recommends an adjustment be made to decrease test year other operating revenues by \$4,049.

#### (C) Purchased Water Expense

Whitley County reported test year purchased water expense of \$292,172 which it proposed to increase by \$83,419. Based on normalized usage of 111,577,000 gallons and the current purchased water contracts in effect, Staff recommends an adjustment be made to increase test year expense by \$38,645, calculated as follows:

Normalized Usage 111,577,000 gallons Adjustment for 15% allowable line loss .85

Allowable Purchased Water

131,267,059 gailons

	%		
<u>Vendor</u>	Allocation*	<u>Gallons</u>	<u>Cost</u>
Jellico Electric & Water Systems	23.86%	31,325,861	\$105,881
(\$3.38 per 1000 gal.)			
City of Williamsburg	34.47%	45,253,729	99,558
(\$2.20 per 1000 gal.)			
Cumberland Falls Highway Water District	27.49%	36,082,038	79,981
(\$2.44 per 1000 gal.)			
City Utilities Commission	14.17%	<u> 18,605,431</u>	<u>45,397</u>
(\$2.20 per 1000 gal. +\$50 mthly. serv. chg.)			
		131,267,059	\$330,817
Less: Test Year Expense			<u>292,172</u>
Recommended Increase			<u>\$ 38,645</u>

<sup>\*</sup>Based on September 1999 purchased water invoices.

#### (D) Salaries & Wages

For the test year, Whitley County reported salaries & wages expense of \$116,488. This included employee salaries, commissioner fees, and employee benefits at levels of \$111,096, \$3,600 and \$1,792, respectively. Whitley County proposed to increase test year salary expense by \$21,623 to a level of \$138,111. In calculating its proposed adjustment Whitley County included salary expense of \$6,131 for part-time help which it currently does not employ. It also included Commissioners pay at a rate of \$200 per month or \$7,200. Whitley County's three commissioners are currently paid only \$100 per month, a total of \$3,600. Accordingly, Staff excluded these amounts in the calculation of salaries & wages expense.

Based on the aforementioned adjustments and the current salary levels of Whitley County's employees, Staff calculated salaries & wages expense as follows:

Curre	nt Employee Salaries & Wages	\$130,911
Less:	Other Part-time Help	6,131
Add:	Commissioners Fees	3,600

Employee Benefits	1,792
Recommended Salaries & Wages Expense Less: Test Year Expense	\$130,172 _116,488
Recommended Increase	<u>\$ 13,684</u>

#### (E) Payroll Taxes

Whitley County reported test year payroll tax expense of \$9,541 which it proposed to increase by \$1,562, based on its proposed increase to test year salary expense. Staff recommends an increase to this expense of \$1,047, based on the recommended increase to salaries and wages expense.

Recommended Salaries & Wages Increase FICA Rate	\$ 13,684 
Recommended Increase	<u>\$ 1,047</u>

#### (F) New Customer Expenses

In its application Whitley County proposed an adjustment to increase test year expenses in the following accounts by 24 percent or a total of \$16,930, based on additional costs expected to be incurred as a result of serving additional customers.

	Proposed
Account	<u>Increase</u>
Sampling	\$ 1,834
Materials & Supplies	7,480
Rents	582
Vehicle Expense	2,483
Utiliies	1,220
Miscellaneous Expense	<u>3,381</u>
Total Proposed Increase	\$16,980

The 24 percent increase was calculated based on an increase in revenue of \$132,960 over the test year level of \$548,353. Although a minimal increase in some

expenses is likely to occur, it is Staff's opinion that these expenses will not necessarily increase in direct proportion to an increase in revenues or in customer level. The proposed adjustments do not meet the rate-making criteria of being known and measurable and, therefore have been disallowed in the determination of Whitley County's revenue requirement.

#### (G) Legal & Accounting Expenses

For the test period Whitley County reported legal and accounting expenses of \$279. Based on Staff's review the \$279 was actually incurred for collection services. In its application Whitley County proposed an adjustment to increase this expense by \$12,500 for accounting services. Due to a change in staffing, Whitley County is now having monthly bookkeeping work performed at a cost of \$750 per month, or \$9,000 annually. The projected cost of an annual audit is \$3,500. Staff concurs with the proposed adjustment to include these accounting costs in proforma operations. Therefore, an adjustment has been made to increase test year expense by \$12,500.

#### (G) Miscellaneous Expense

Whitley County reported test year miscellaneous expense of \$14,089. Included in this total was \$11,278 for cash shortages. It is Staff's opinion that these cash shortages are not likely to recur and should be excluded from the calculation of Whitley County's revenue requirement. Accordingly, an adjustment has been made to decrease test year miscellaneous expense to a level of \$2,811.

#### (H) Depreciation & Amortization

For the test year Whitley County reported depreciation and amortization expense of \$84,446. An adjustment was proposed to increase this amount by \$58,285 to allow

for depreciation for additional water lines being constructed. The estimated total project cost is \$2,331,000. The proposed depreciable life of 40 years is reasonable and acceptable for rate-making purposes. Therefore, Staff has included an adjustment to increase test year depreciation and amortization expense by \$58,275 (\$2,331,000 ÷ 40).

#### (I) <u>Interest Income</u>

Whitley County reported test year interest income of \$4,491. Based on Staff's review, \$1,538 of this interest is restricted to the construction fund. Accordingly, Staff recommends an adjustment be made to decrease test year interest income to a level of \$2,953.

## ATTACHMENT C STAFF REPORT CASE NO. 2000-001 CALCULATION OF REVENUE REQUIREMENT

Recommended Operating Expenses Average Annual Debt Service	703,248 74,378
20 Percent Debt Service Coverage	14,876
Total Revenue Requirement	792,502
Less: Normalized Operating Revenues from Water Sales Other Operating Revenues Interest Income	671,958 12,464 2,953
Required Revenue Increase	105,127
% Increase over Normalized Operating Revenues from Water Sales	15.6%

## **ALLOCATION OF PLANT VALUE**

	Total	Commodity	Demand	Customer
Land & Land Rights	\$200		\$200	
Structures & Improvements	44,494		\$44,494	
Collecting & Impounding Reservoirs	183,539	-	\$183,539	,
Wells and Springs	81,298		81,298	
Supply Mains	1,444,322		1,444,322	
Pumping Equipment	40,390		40,390	
Water Treatment Equipment	1,448		1,448	
Transmission & Distribution				
Mains	1,395,873		1,395,873	
Services	685,026			685,026
Meters & Meter Installation	125,537			125,537
Subtotal	\$4,002,127		\$3,191,564	\$810,563
Allocation Percentages	100%		80%	20%
Office Furniture & Equipment	\$27,918		\$22,334	\$5,584
Transportation Equipment	\$26,310		\$21,048	\$5,262
Tools, Shop, & Garage Equip	3,059		2,447	612
Power Operated Equipment	43,072		34,458	8,614
Communication Equipment	4,965		3,972	993
Other Tangible Plant	(1)		(1)	0
Total	\$4,107,450		\$3,275,822	\$831,628
Percentages	100%		80%	20%

## **ALLOCATION OF DEPRECIATION**

	Total	Commodity	Demand	Customer
Structures & Improvements	\$1,060		\$1,060	
Collecting & Impounding Reservoirs	3,527		3,527	
Wells and Springs	2,322		2,322	
Supply Mains	28,791		28,791	
Pumping Equipment	959		959	
Water Treatment Equipment	86		86	
Services	24,191			24,191
Meters & Meter Installations	12,229			12,229
Subtotal	\$73,165		\$36,745	\$36,420
Allocation Percentages	100%		50.22%	49.78%
Office Furniture & Equipment	\$1,831		\$920	\$911
Other Plant & Misc. Equipment	510		256	254
Transportation Equipment	4,667		2,344	2,323
Tools, Shop & Garage Equipment	41		21	20
Power Operated Equipment	4,100		2,059	2,041
Total	\$84,314		\$42,345	\$41,969
Percentages	100%		50.22%	49.78%

#### ALLOCATION OF OPERATION AND MAINTENANCE EXPENSES

VV	hitley County Water D		Damand I	Customan
	Total	Commodity	Demand	Customer
Salaries and Wages				
Source of Supply	\$1,970		\$1,970	
Water Treatment-Maintenance	3,087		\$3,087	
Transmission & Distribution	27,779		27,779	
Customer Accounts	59,664			59,664
Payroll Taxes				
Source of Supply	169		169	
Water Treatment-Maintenance	254		254	
Transmission & Distribution	2,319		2,319	
Customer Accounts	4,987			4,987
Insurance - Workers Comp				
Source of Supply	98		98	
Water Treatment-Maintenance	147		147	
Transmission & Distribution	1,345		1,345	
Customer Accounts	2,893			2,893
Insurance-General Liability				
Source of Supply	172		172	
Water Treatment-Maintenance	258		258	
Transmission & Distribution	2,357		2,357	
Customer Accounts	5,069			5,069
Purchased Water	330,817	330,817		
Sampling	7,644			7,644
Materials and Supplies	17,854		17,854	
Materials & Supplies-Postage	4,709			4,709
Subtotal	\$473,592		\$57,809	<u> </u>
Less Commodity	(330,817)		<del> </del>	
Total	\$142,775	£	\$57,809	\$84,966
Allocation Percentages	100.00%		40.49%	
Administrative & General	27.070		45.050	20.440
Salaries & Wages	37,672		15,253	
Payroll Taxes	2,859		1,158	
Insurance-Workers Comp	1,659		672	
Insurance-General Liability	2,906		1,177	
Legal & Accounting	12,779		5,174	7,605
Materials & Supplies	1		0.40.4	F 450
Office Supplies	8,604		3,484	<u> </u>
Rents	2,215	- <del> </del>	897	
Vehicle Expense	10,345		4,189	
Utilities	5,085		2,059	
Miscellaneous Expense	2,811		1,138	<u> </u>
Subtotal	\$86,935		35,201	
Subtotal	\$560,527	\$330,817	\$93,010	\$136,700
Less:				<u>                                     </u>
Interest Income	(2,953)			(2,953)
Other Operating Revenue	(12,464)			(12,464
Operating Expenses	\$545,110	\$330,817	\$93,010	\$121,283
Depreciation(1)	\$142,721		\$71,674	\$71,046
Debt Service Coverage(2)	\$89,254	-4	\$71,403	<u> </u>
Revenue Required from Rates	\$777,085		\$236,087	\$210,18

- (1) Depreciation based on percentages at sheet 2.(2) Debt Service based on plant value percentages.

## Allocation of Cost of Service

	Total	Commodity	Demand	Customer
Operation and Maintenance	\$560,527	\$330,817	\$93,010	\$136,700
Depreciation	142,721		71,674	71,046
Debt Service	89,254		71,403	17,851
General Water Service Cost	\$792,502	\$330,817	\$236,087	\$225,597
Less: Interest Income	(2,953)			(2,953)
Less: Other Income	(12,464)			(12,464)
Revenue Required from Rates	\$777,085	\$330,817	\$236,087	\$210,180

## **CALCULATION OF WATER RATES**

111,577,000 100.00%	22,492,000	63,516,000	·	
		63.516.000		
		63,516,000	I	
100.00%		,,5-01	23,971,000	1,598,000
	20.16%	56.93%	21.48%	1.43%
183,899,990	44,984,000	105,436,560	31,881,430	1,598,000
100.00%	24.46%	57.33%	17.34%	0.87%
\$330,817	\$66,693	\$188,334	\$71,059	\$4,731
236,087	57,747	135,349	40,937	2,054
210,180	210,180			
\$777,084	\$334,620	\$323,683	\$111,996	\$6,785
	22 502			
	23,003			
	\$14.24	\$5.10	\$4.67	\$4.25
	\$330,817 236,087 210,180	\$330,817 \$66,693 236,087 57,747 210,180 210,180 \$777,084 \$334,620 23,503	\$330,817 \$66,693 \$188,334 236,087 57,747 135,349 210,180 210,180 \$777,084 \$334,620 \$323,683	100.00% 24.46% 57.33% 17.34% \$330,817 \$66,693 \$188,334 \$71,059 236,087 57,747 135,349 40,937 210,180 210,180 \$777,084 \$334,620 \$323,683 \$111,996 23,503

## **VERIFICATION OF RATES**

**Whitley County Water District** 

Bills	Gallons	Rate	Revenue
23,503	22,492,000	\$14.23	\$334,448
	63,516,000	5.10	323,932
	23,971,000	4.67	111,945
	1,598,000	4.25	6,792
24		\$34.63	\$831.12
			\$777,117
			2,953
			12,464
	111,577,000		\$792,534
	23,503	23,503	23,503

Note: First 1,000 gallons reduced \$0.01 to obtain revenue requirement.

## **COMPARISON OF RATES**

		Cost of Service		
Gallon Usage	Current Rates	Rates	Increase	Percentage
1000	\$10.83	\$14.23	\$3.40	31.39%
2000	15.66	19.33	\$3.67	23.44%
3000	20.49	24.43	\$3.94	19.23%
4000	25.32	29.53	\$4.21	16.63%
5000	30.15	34.63	\$4.48	14.86%
6000	34.48	39.30	\$4.82	13.98%
7000	38.81	43.97	\$5.16	13.30%
8000	43.14	48.64	\$5.50	12.75%
9000	47.47	53.31	\$5.84	12.30%
10000	51.80	57.98	\$6.18	11.93%
15000	73.45	81.33	\$7.88	10.73%
20000	95.10	104.68	\$9.58	10.07%
25000	116.75	128.03	\$11.28	9.66%
30000	138.40	151.38	\$12.98	9.38%
35000	160.05	174.73	\$14.68	9.17%
50000	225.00	244.78	\$19.78	8.79%
75000	333.25	361.53	\$28.28	8.49%
100000	441.50	478.28	\$36.78	8.33%
200000	824.50	903.28	\$78.78	9.55%

## Whitley County Water District

## Monthly Water Rates

First 1,000 gallons	\$14.23 Minimum bill
Next 4,000 gallons	5.10 per 1,000 gallons
Next 95,000 gallons	4.67 per 1,000 gallons
Over 100,000 gallons	4.25 per 1,000 gallons

Non-Metered \$34.63 per month