### STAFF REPORT

### ON

### EAST LAUREL WATER DISTRICT

#### CASE NO. 2005-00476

On December 19, 2005, East Laurel Water District ("East Laurel") filed an application to adjust its general rates for water service. In its application East Laurel states that its total revenue requirement is \$1,843,474 and that current rates produce a revenue requirement deficiency of \$598,723. East Laurel performed a cost of service study to determine the rates necessary and appropriate to meet its revenue requirement and requests that those rates be approved by the Commission. East Laurel's proposed rates will result in a \$32.69 monthly bill for a residential customer using 5,000 gallons of water. This represents a 45.42 percent increase over the current charge at present rates for the same usage of \$22.48.

To establish the basis for its application, East Laurel selected the calendar year ended December 31, 2003, as its test year. East Laurel proposed pro forma adjustments to its test year operations. East Laurel's adjusted operating statement detailing test year operations and its adjustments thereto are shown in this report at Attachment A.

To review East Laurel's application, Staff conducted a field review to gather information concerning East Laurel's test year operating results and pro forma adjustments. The scope of Staff's review was limited to obtaining information as to whether test period operating revenues and expenses were representative of normal operations. All pro forma adjustments to test year operations are required to be known

and measurable pursuant to 807 KAR 5:001 Section 10 (7). Insignificant or immaterial discrepancies were not pursued and are not addressed herein.

This report summarizes Staff's review and recommendations. Scott Lawless is responsible for the revenue requirement determination while Eddie Beavers determined pro forma revenues and developed the rates recommended by Staff.

At the time of East Laurel's application filing date its operating results for the calendar year ended 2004 had been published and filed with the Commission. During its review Staff decided that this reporting period would provide a better representation of East Laurel's operations since it is more current than the test year used by East Laurel. Staff recommends that the Commission use the calendar year ended 2004 as the test year in this case and has used 2004 as the test year in this report

Attachment B of this report details East Laurel's test year adjusted operating statement as determined by Staff. Attachment B also includes explanations of Staff's pro forma adjustments to test year operations as well as comments concerning the adjustments proposed by East Laurel as shown in Attachment A.

Attachment C of this report details a comparison of East Laurel's annual revenue requirements as requested by East Laurel and recommended by Staff. As shown at Attachment C, Staff determined East Laurel's revenue requirement from rates to be \$1,854,873 using a 20 percent coverage for all annual long-term debt payments. Staff recommends that the Commission approve rates for East Laurel so as to increase test year revenues from rates by \$568,418.

Staff prepared a cost of service study to determine the appropriate rate structure for East Laurel to generate the revenue requirement recommended by Staff. The study

is shown in this report at Attachment D. Staff's recommended rates are shown in Attachment D at Page 16. Pursuant to these rates the monthly bill for a residential customer using 5,000 gallons will increase to \$32.44, a 44.3 percent increase over the current charge of \$22.48 for the same usage.

East Laurel has no employees. Its operations are performed entirely by Wood Creek Water District ("Wood Creek") through an operation and maintenance contract agreement. Wood Creek also operates and maintains the water system of West Laurel Water Association, Inc. ("West Laurel") through a separate contract agreement. Wood Creek, West Laurel, and East Laurel are all operated from the office of Wood Creek using Wood Creek's employees. There is no profit realized by Wood Creek through the execution of these operating agreements. All services are billed on a cost basis.

Wood Creek bills West Laurel and East Laurel monthly for services provided. Field operating costs including payroll, transportation, equipment, and materials and supplies are tracked and directly assigned to the appropriate entity through a work order system. Through this system Wood Creek processes approximately 1,200 work orders annually for each East Laurel and West Laurel. Office expenses are allocated based on the number of customers served by each entity.

Through passage of Kentucky Revised Statute 74.361 the General Assembly of the Commonwealth determined that reduction of the number of water districts through merger is in the public interest because it will tend to eliminate wasteful duplication of costs and efforts, resulting in a more sound and businesslike degree of management and ultimately result in greater economies, less cost, and a higher degree of service to

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the general public. The General Assembly states that public policy favors the merger of water districts wherever feasible.

The fact that West Laurel is an association, and not a district, does not preclude it from merger with the other districts (See KRS 74.361 (9)). The same cost savings and principals of economics referred to by the General Assemble apply to both districts and associations.

The merger of these systems would result in eliminating three water entities of the same approximate size serving about 4,800 customers each and establishing a newly formed single entity with approximately 14,400 customers and thus create greater economies of scale and financial stability.

Savings to the customers of these entities would be realized immediately upon merger. Merger of the systems would eliminate the processing of approximately 2,400 work orders where Wood Creek bills East Laurel and West Laurel for services provided. This work order process places a tremendous administrative burden on the employees of Wood Creek. There would also be immediate savings realized from eliminating the accounting, record keeping, and reporting requirements of two entities as well as eliminating the cost of maintaining two managing boards. There would be many other areas of savings as the merged entity operated and efficiencies developed over time.

The merger transition for the employees and customers of these entities would be seamless. The employees of Wood Creek already operate East Laurel and West Laurel and have an intimate knowledge of their histories and operating systems. The customers would see no change in service. All three entities are already interconnected by transmission and distribution mains and water served to all customers originates

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from Wood Creek's treatment plant. The office building and address where all customers currently pay their bill and go for customer account information and assistance would not change.

Staff recommends that the Commission order the Boards of these entities to engage in discussion regarding merger of these systems and prepare and submit to the Commission a comprehensive report stating separately whether they are in favor or opposed to merger and the reasons therefore. Staff would provide assistance or guidance to these parties on this matter if requested.

# <u>Signatures</u>

Prepared by: Jack Scott Lawless, CPA

Public Utility Financial Analyst Water and Sewer Revenue

Requirements Branch

Division of Financial Analysis

Eddir Sewer

Prepared by: Eddie Beavers Public Utility Rate Analyst

Communications, Water and Sewer

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# ATTACHMENT A STAFF REPORT CASE NO. 2005-00476 EAST LAUREL'S PROPOSED ADJSTED OPERATING STATEMENT

	•	Test Year	Ad	djustments	Ref.	Pro forma
Operating Revenue						
Sales of Water	\$	1,169,503	\$	12,004		\$ 1,181,507
Other Water Revenues		48,283				 48,283
Total Operating Revenue		1,217,786		12,004		 1,229,790
Operating Expenses						
Operation and Maintenance						
Purchased Water		458,219		403,339		861,558
Purchased Power		22,306				22,306
Materials and Supplies		185,118				185,118
Contractual Services, Engineering		2,510				2,510
Contractual Services, Acct. and Legal		11,587				11,587
Contractual Services, Other		326,622				326,622
Insurance General Liability		7,648				7,648
Commissioner's Fees		6,930				6,930
Bad Debt		6,331				6,331
Miscellaneous		1,475				 1,475
Total Operation and Maintenance		1,028,746		403,339		1,432,085
Depreciation		189,211				189,211
Amortization		11,281				11,281
Taxes Other Than Income		2,092				 2,092
Total Operating Expenses		1,231,330		403,339		1,634,669
Net Operating Income		(13,544)	į	(391,335	)	(404,879)
Plus: Interest Income		14,961		(,,	,	 14,961
Income Available to Service Debt	\$	1,417	\$	(391,335	)	\$ (389,918)

# ATTACHMENT B STAFF REPORT CASE NO. 2005-00476 STAFF'S RECOMMENDED ADJUSTED OPERATING STATEMENT

	-	Test Year	Adjustments		Ref.	Pro forma
Operating Revenue Sales of Water Other Water Revenues	\$	1,223,286 50,992	\$	12,177	(A)	\$ 1,235,463 50,992
Total Operating Revenue		1,274,278		12,177		 1,286,455
Operating Expenses Operation and Maintenance Purchased Water Purchased Power Materials and Supplies Contractual Services, Engineering Contractual Services, Accounting		484,364 26,765 187,508 1,160 10,866		421,866	(B)	906,230 26,765 187,508 1,160 10,866
Contractual Services, Legal Contractual Services, Other Insurance General Liability Insurance Other Bad Debt Miscellaneous		100 340,964 8,663 1,607 7,802 8,703				100 340,964 8,663 1,607 7,802 8,703
Total Operation and Maintenance Depreciation Amortization Taxes Other Than Income		1,078,502 193,128 11,242 1,842		421,866		 1,500,368 193,128 11,242 1,842
Total Operating Expenses		1,284,714		421,866		 1,706,580
Net Operating Income Plus: Interest Income		(10,436) 11,358		(409,689)	)	(420,125) 11,358
Income Available to Service Debt	\$	922	\$	(409,689	)	\$ (408,767)

(A) <u>Water Sales</u>. East Laurel reported water sales for 2003 and 2004 in the amounts of \$1,169,503 and \$1,223,286, respectively. East Laurel proposed to increase the 2003 amount by \$12,004 to state pro forma water sales at the amount calculated using its billing analysis for 2003. Staff recommends East Laurel's proposed adjustment be denied and the Commission instead increase 2004 water sales by \$12,177 to state pro

forma water sales at the amount calculated in Staff's billing analysis for 2004 gallons sold.

(B) Purchased Water. East Laurel purchases all its water for resale from Wood Creek. During 2003 and 2004 Wood Creek's wholesale rate was \$1.24. On November 30, 2005, in Case Number 2005-00453 Wood Creek was granted authority by the Commission to increase this rate to \$2.32. As a result East Laurel has requested that 2003 expenses be increased by \$403,339 to calculate pro forma operating expenses. Staff recommends the Commission deny this adjustment and instead increase 2004 expenses by \$421,866 as calculated below.

Thousand gallons purchased in 2004	390,616.50
Times: New rate per thousand	<u>\$2.32</u>
Pro forma	906,230
Less: Test year	<u>(484,364</u> )
Increase	\$421,866

# ATTACHMENT C STAFF REPORT CASE NO. 2005-00476 COMPARISON OF EAST LAUREL'S REQUESTED AND STAFF'S RECOMMENDED REVENUE REQUIREMENTS

	Requested By East Laurel		Calculated By Staff		Difference		
Operating Expenses Annual Debt Service Debt Service Coverage	\$	1,634,669 174,004 34,801	\$	1,706,580 175,536 35,107	\$	71,911 1,532 306	
Total Revenue Requirement Less: Other Operating Revenue Interest Income	**************************************	1,843,474 (48,283) (14,961)		1,917,223 (50,992) (11,358)		73,749 (2,709) 3,603	
Revenue Required from Rates Less: Pro forma Revenues at Present Rates		1,780,230 (1,181,507)		1,854,873 (1,286,455)		74,643 (104,948)	
Revenue Increase	\$	598,723	\$	568,418	\$	(30,305)	

# ATTACHMENT D STAFF REPORT 2005-00476 STAFF'S COST OF SERVICE STUDY

Wholesale Allocation Factors: Staff has accepted the inch diameter mile method as filed by East Laurel. However, the Wholesale Allocation Factors contained errors in the Jointly Used Inch Miles calculation which affected the Allocation Factors. The proper Total Jointly Used Inch Miles are reflected on the Inch Mile Ratio page.

## Cost of Service Study:

Rates: Staff's review established the total revenue required for East Laurel is \$1,917,223. \$50,992 is obtained through other operating revenue and \$11,358 is obtained through interest income. Staff developed rates that will collect the remaining \$1,854,873 from the company's retail and wholesale customers. The utility's expenses were analyzed and allocated according to three different classifications: Pumping and Treatment, Transmission and Distribution, and Customer.

Pumping and Treatment costs are those directly associated with the cost of water. Transmission and Distribution costs are those associated with providing the facilities to meet the peak demands placed on the system. Customer costs are those incurred to serve customers regardless of the varying usage.

The Allocation of Expenses sheet of the following cost of service study shows the allocation of Operation and Maintenance expenses to the functional cost components, Commission Staff utilized information obtained through the utility's application and field reviews to allocate these costs. Administrative and general expenses are allocated to the cost components based on the subtotal allocated percentages.

The Wholesale Rate sheet of the following Cost of Service Study allocates the Operation and Maintenance expenses to the wholesale customer. Staff accepted East Laurel's method of allocating costs to transmission and distribution and to purchased power and purchased water proportionate to the wholesale customer. [See note on Wholesale Rate sheet]

Additionally, applying the inch diameter mile allocation factors to the various cost components; Staff has calculated the Wholesale Rate for East Laurel as \$3.22.

The Allocation of Retail Costs sheet of the attached Cost of Service Study allocates the remaining portion of the Revenue Requirement from Rates to the retail customer in the functional cost components of Commodity, Demand and Customer. The allocation process results in \$857,236 in commodity costs, \$629,410 in demand costs and \$290,334 in customer costs. Commodity costs are allocated across the rate steps in accordance with usage percentages. Total demand costs are allocated across the rate steps in accordance with usage that has been adjusted to reflect the higher peak demands that are caused in the lower rate steps. Total customer costs are all collected in the first rate step, or minimum bill, since those costs do not differ with varying usage.

The total for the first rate step is \$867,878 which is divided by the number of bills issued on an annual basis which calculates to a minimum bill of \$15.37 for the first 2,000 gallons. The totals for the remaining rate steps are each divided by the actual water usage for each rate step to calculate the remainder of the rates. The rates being recommended by Staff have been adjusted from the Cost of Service Study rates to reduce the impact of the increase to the larger users.

ALLOCATION OF PLANT								
	Total	Commodity	Demand	Customer				
Structures and Improvements	\$ 21,125		\$ 21,125					
Pumping Equipment	179,037		179,037					
Dist. Reservoirs and Standpipes	855,566		855,566					
Transmission and Distribution Mains	5,823,582		5,823,582					
Land and Land Rights	26,161		26,161					
Meters	602,043			602,043				
Services	692,017		692,017					
Hydrants	24,211			24,211				
Subtotal	8,223,742		7,597,488	626,254				
Percentage			0.9238	0.0762				
Other Plant	7,604		7,025	579				
Organization	6,608		6,105	503				
Total	\$ 8,237,954		\$7,610,618	\$ 627,336				
Percentage			0.9238	0.0762				

ALLOCATION OF DEPRECIATION								
	Total Commodity Demand		Customer					
Structures and Improvements	\$11,777		\$11,777					
Pumping Equipment	70,610		70,610					
Dist. Reservoirs and Standpipes	108,064		108,064					
Transmission and Distribution Mains	1,393,941		1,393,941					
Meters	328,799			328,799				
Services	357,426		357,426					
Hydrants	13,591			13,591				
Subtotal	\$2,284,208		\$1,941,818	\$342,390				
Percentage			0.8501	0.1499				
Organization	5,547		4,716	831				
Other Plant	2,215		1,883	332				
Total	\$2,291,970		\$1,948,417	\$343,553				
Percentage			0.8501	0.1499				

ALLOCATION OF EXPENSES							
			Commodity	Demand	Customer		
Purchased Water		\$906,230	\$906,230				
Purchased Power		26,765	26,765				
Materials and Supplies		181,327		8,450	172,877		
Contractual Services		231,930		169,306	62,624		
Bad Debt Expense		7,802			7,802		
Engineering	Ī	1,160		1,160			
Insurance		10,270		10,270			
Commissioner's Fees							
Depreciation		193,128		164,179	28,949		
Subtotal		\$1,558,612	\$932,995	\$353,365	\$272,252		
Percentage Less Commodity				0.5648	0.4352		
Administrative and General							
Materials and Supplies		6,181		3,491	2,690		
Accounting and Legal		10,966		6,194	4,772		
Contractual Services		109,034		61,585	47,449		
Taxes other than Income		1,842		1,040	802		
Amortization		11,242		6,350	4,892		
Miscellaneous		8,703		4,916	3,787		
Total Operating and Maintenance		\$1,706,580	\$932,995	\$436,941	\$336,644		
Principal and Interest		175,536		162,169	13,367		
Coverage		35,107		32,434	2,673		
Total Expenses		\$1,917,223	\$932,995	\$31,544	\$352,684		

WATER PURCHASED AND SOLD						
Purchased	390,617,000					
Retail Sales	268,740,000	0.6880				
Wholesale	23,748,000	0.0608				
Flushing and Other	42,355,000	0.1084				
Loss	55,774,000	0.1428				

	INCH MILE RATIO								
	То	tal Syste	m	Jointly Used					
Size	Feet	Miles	Inch Miles	Feet	Miles	Inch Miles			
16	42,273	8.01	128.10	35,640	6.75	108			
8	1,292	0.24	1.96		0.00	-			
6	75,945	14.38	86.30	30,096	5.70	34.20			
4	148,037	28.04	112.15	5,808	1.10	4			
3	41,945	7.94	23.83	-	-	_			
2	29,969	5.68	11.35	-	-	_			
	339,461	64.29	363.69	71,544	13.55	146.60			
Inch Mile Ratio		0.4031							

ALLOCAT	ION FACTORS						
Plant Use and Line Loss and Other	0.2512						
Water Production Factor	1 12512			1.3355			
Jointly Used Pipe / Total Pipe	146.60	/	363.69	0.4031			
Wholesale Water Production Factor							
Plant and System Use + Line Loss x Jointly Used Lines	0.2512	x	0.4031	0.1013			
Wholesale Water Production Factor	1 11013			1.1127			
NAME AND ARREST OF A STATE OF A S	1.1127 x 23,748,000			0.0070			
Wholesale Production Allocation Factor	1.3355 x 292,488,000	x 0.4031	0.0676				
Transmission Factor	23,748,000 292,488,000	x	0.1013	0.0082			
Commodity Factor	23,748,000 292,488,000		J.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.0812			

ALLOCATION OF COSTS TO RETAIL CUSTOMERS									
	Total	2,000	2,000	2,000	4,000	10,000			
Actual Usage		· · · · · · · · · · · · · · · · · · ·							
	268,679.5	95,352.5	67,433.2	36,761.4	28,776.5	40,355.9			
Percentage		0.3549	0.2510	0.1368	0.1071	0.1502			
		2.00	1.75	1.50	1.25	1.00			
Weighted Sales									
	440,181.7	190,705.0	118,008.1	55,142.1	35,970.6	40,355.9			
Percentage		0.4332	0.2681	0.1253	0.0817	0.0917			
Commodity	\$857,236	\$304,227	\$215,149	\$117,289	\$91,813	\$128,758			
Demand	629,410	272,687	168,738	78,847	51,434	57,704			
Subtotal	\$1,486,646	\$576,914	\$383,887	\$196,136	\$143,247	\$186,462			
Customer Chg. (56,480 bills)	290,334	290,334							
Total	\$1,776,980	\$867,248	\$383,887	\$196,136	\$143,247	\$186,462			
Rate per 1,000		\$15.35	\$5.69	\$5.34	\$4.98	\$4.62			
Current Rates		10.82	4.09	3.48	2.81	2.47			
% Increase		42%	39%	53%	77%	87%			
Requested Rates in Application		15.40	5.86	5.57	4.95	4.34			
% Increase		42%	43%	60%	76%	76%			

#### BILLING ANALYSIS FOR YEAR ENDING DEC. 2004 5/8 INCH CONNECTIONS STAFF RECOMMENDED RATES **USAGE TABLE** Bills 2.000 Gallons 2,000 2,000 4,000 10.000 First 2,000 14,525 11.859.0 11,859.0 Next 2,000 17,000 51,921.9 34,000.0 17,921.9 Next 2,000 12,240 60,659.1 24,480.0 24,480.0 11,699.1 Next 4,000 8,746 66,075.0 17,492.0 17,492.0 17,492.0 13,599.0 Over 7.498.0 10,000 3,749 67,420.0 7,498.0 7,498.0 14,996.0 29,930.0 Total 36,689.1 56,260 257,935.0 95,329.0 67,391.9 28,595.0 29,930.0 **REVENUE TABLE** Bills Gallons Rate Revenue Current % Inc. \$15.40 \$10.82 42% First 2,000 56,260 95,329.0 \$866,404 41% Next 2,000 67,391.9 5.75 387,503 4.09 59% 36,689.1 5.54 203,258 3.48 Next 2,000 73% Next 4,000\* 28,595.0 4.86 138,972 2.81 4.29 2.47 74% Over 10,000\*\* 29,930.0 128,400 Total 56,260 257,935.0 \$1,724,536 1 Inch 14,640 23,688 2 Inch 14,185 3 Inch 62,350 Other Income Wholesale Revenue 77,893 \$1,917,292 Revenue Required

NOTE: The District has requested that Cost of Service Rates not be fully implemented so as to minimize the impact on the larger users. Staff concurs with this request.

BILLING ANALYSIS FOR YEAR ENDING DEC. 2004											
1 INCH CONNECTIONS											
STAFF RECOMMENDED RATES											
	U	SAGE TA	BLE								
	Bills Gallons 6,000 4,000 10,000										
First 6,000	34	91.9	91.9								
Next 4,000	21										
Over 10,000	50	2,709.1	300.0	200.0	2,209.1						
Total	105	2,968.8	517.9	241.8	2,209.1						
REVENUE TABLE											
	Bills	Gallons	Rate	Revenue							
First 6,000	105	517.9	\$37.98	\$3,988							
Next 4,000		241.8	4.86	\$1,175							
Over 10,000		2,209.1	4.29	\$9,477							
Total	105	2,968.8		\$14,640							

BILLING ANALYSIS FOR YEAR ENDING DEC. 2004				
2 INCH CONNECTIONS				
STAFF RECOMMENDED RATES				
USAGE TABLE				
	Bills	Gallons	20,000	20,000
First 20,000	36	56.9	56.9	
Over 20,000	55	4,493.6	1,100.0	3,393.6
Total	91	4,550.5	1,156.9	3,393.6
REVENUE TABLE				
	Bills	Gallons	Rate	Revenue
First 20,000	91	1,156.9	\$100.32	\$9,129
Over 20,000		3,393.6	4.29	14,559
Total	91	4,550.5		\$23,688

BILLING ANALYSIS FOR YEAR ENDING DEC. 2004				
3 INCH CONNECTIONS				
STAFF RECOMMENDED RATES				
USAGE TABLE				
	Bills	Gallons	30,000	30,000
First 30,000	-	_	_	
Over 30,000	24	3,225.2	720.0	2,505.2
Total	24	3,225.2	720.0	2,505.2
REVENUE TABLE				
	Bills	Gallons	Rate	Revenue
First 30,000	24	720.0	\$143.22	\$3,437
Over 30,000		2,505.2	4.29	10,748
Total	24	3,225.2		\$14,185

Comparison of Rates				
Gallon Usage	Current	Staff Rec	Increase	Percentage
_	Rates	Rates		
1,000	\$10.82	\$15.40	\$4.58	42.3%
2,000	10.82	15.40	4.58	42.3%
3,000	14.91	21.15	6.24	41.9%
4,000	19.00	26.90	7.90	41.6%
5,000	22.48	32.44	9.96	44.3%
6,000	25.96	37.98	12.02	46.3%
7,000	28.77	42.84	14.07	48.9%
8,000	31.58	47.70	16.12	51.0%
9,000	34.39	52.56	18.17	52.8%
10,000	37.20	57.42	20.22	54.4%
20,000	61.90	100.32	38.42	62.1%
25,000	74.25	121.77	47.52	64.0%
50,000	136.00	229.02	93.02	68.4%
75,000	197.75	336.27	138.52	70.0%
100,000	259.50	443.52	184.02	70.9%
200,000	518.85	893.97	375.12	72.3%
300,000	753.50	1,301.52	548.02	72.7%
400,000	1,000.50	1,730.52	730.02	73.0%
500,000	1,247.50	2,159.52	912.02	73.1%
1,000,000	2,482.50	4,304.52	1,822.02	73.4%
2,500,000	6,187.50	10,739.52	4,552.02	73.6%
5,000,000	12,362.50	21,464.52	9,102.02	73.6%
10,000,000	24,712.50	42,914.52	18,202.02	73.7%

Comparison of Rates				
Block Usage	Current	Staff Rec		
	Rates	Rates		
First 2,000 gallons	\$10.82	\$15.40		
Next 2,000 gallons	4.09	5.75		
Next 2,000 gallons	3.48	5.54		
Next 4,000 gallons	2.81	4.86		
Over 10,000 gallons	2.47	4.29		

Effect on Customer Average Bill - 5,000 Gallons Usage					
Current Rates	Staff Rec	Amount	%		
	Rates	Increase	Increase		
\$22.48	\$32.44	\$9.96	44.30%		