COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ALTERNATIVE RATE ADJUSTMENT FILING OF BLACK MOUNTAIN UTILITY DISTRICT

CASE NO. 2015-00088

NOTICE OF FILING OF COMMISSION STAFF REPORT

Notice is hereby given that, in accordance with the Commission's Order of May 26, 2015, the attached report containing the findings of Commission Staff regarding the Applicant's proposed rate adjustment has been filed in the record of the above-styled proceeding. Pursuant to paragraphs 2, 3, and 4 of the Commission's May 26, 2015 Order, Black Mountain Utility District is required to file written comments regarding the findings of Commission Staff no later than August 19, 2015, or 14 days after the date of the filing of this report, whichever occurs earlier.

Jeff Derouen

Executive Director

Public Service Commission

P.O. Box 615

Frankfort, Kentucky 40602

DATED: AUG 0 5 2015

cc: Parties of Record

STAFF REPORT

ON

BLACK MOUNTAIN UTILITY DISTRICT

CASE NO. 2015-00088

Black Mountain Utility District ("Black Mountain"), a water district organized pursuant to KRS 74, provides retail water service to approximately 3,429 customers residing in Harlan County.¹ It provides wholesale water service to Hyden-Leslie Water District ("Hyden-Leslie"). It also provides wastewater service to seven customers.²

On March 19, 2015, Black Mountain tendered an application ("Application") with the Commission for an adjustment of its retail and wholesale water service rates pursuant to 807 KAR 5:076. After Black Mountain corrected a deficiency, its Application was deemed filed on May 6, 2015. In support of its requested rates, Black Mountain provided financial exhibits with its Application that were based on the test year ended December 31, 2013.

The financial exhibits provided by Black Mountain are shown below in condensed form and demonstrate that it determined that an annual revenue increase of \$548,784, or 33.08 percent, is warranted; however, Black Mountain requests rates that will increase annual revenues by only \$296,314, or 18.18 percent.

¹ Annual Report of Black Mountain Utility District (Water Division) to the Public Service Commission for the Calendar Year Ended December 31, 2013 ("2013 Water Annual Report") at 12 and 53.

² Annual Report of Black Mountain Utility District (Sewer Division) to the Public Service Commission for the Calendar Year Ended December 31, 2013 at 25.

Pro Forma Operating Expenses Plus: Average Annual Principal		2,151,470	
and Interest Payments on Current Debts		131,601	
Additional Working Capital		13,160	
Overall Revenue Requirement		2,296,231	
Less: Other Operating Revenue	(88,696)		
Interest Income		(7)	
Revenue Required From Rates		2,207,528	
Less: Pro Forma Present Rate Service Revenues		_(1,658,744)	
Required Revenue Increase	_\$_	548,784	
Percent Increase		33.08%	

Black Mountain's requested rates do not impact retail customers equally. Black Mountain's current tariff includes three retail rate structures that are assessed based on geographic location.³ In its Application, Black Mountain requests to consolidate its three

Water Rate A

First 2,000 gallons Over 2,000 gallons \$21.38 Minimum Bill 7.69 Per 1,000 Gallons

Water Rate D

First 2,000 gallons Over 2,000 gallons

\$18.13 Minimum Bill 6.07 Per 1,000 Gallons

Former Green Hills Water District Customers

First 2,000 gallons Next 6,000 gallons Over 8,000 gallons \$23.90 Minimum Bill

9.21 7.65

³ Black Mountain is a distribution water system. It purchases wholesale water from the cities of Pineville, Harlan, and Evarts that it distributes to its customers. Black Mountain assesses Water Rate A, as shown below, to retail customers that receive wholesale water purchased from the city of Harlan. Water Rate D is assessed to retail customers who are distributed wholesale water purchased from the city of Evarts. The third rate structure is assessed to Black Mountain's customers that were formerly served by the Green Hills Water District ("Green Hills"), which receive wholesale water purchased from the city of Pineville. Green Hills Water District was merged into Black Mountain in 2012, as approved by Commission Order dated July 13, 2012 in Case No. 2012-00095, *Application of Black Mountain Utility District and Green Hills Water District for Merger Pursuant to KRS 74.363*.

retail rate structures in order to create a single, unified tariff to be assessed to all retail customers.⁴ The unified tariff will increase the average monthly residential monthly bill for 4,200 gallons of water as shown below.

	Current Rates	Requested Rates		Increase/ (Decrease)		Number of Customers
Water Rate A	\$38.30	\$	45.16	\$ 6.86	17.91%	2,114
Water Rate D	31.48		45.16	13.68	43.46%	464
Former Green Hills	44.16		45.16	1.00	2.26%	736 ⁵

Black Mountain requests to increase the wholesale rate charged to Hyden-Leslie Water District from \$3.71 to \$5.37 per thousand gallons, an increase of \$1.66, or 44.74 percent.

To determine the reasonableness of the proposed water service rates, Staff performed a limited financial review of Black Mountain's operations for the test year ended December 31, 2013. The scope of the review was limited to determining whether operations reported for the test year were representative of normal operations. Known and measurable changes to test-year operations were identified and adjustments were made when their effects were deemed to be material. All insignificant and immaterial discrepancies were not pursued or addressed.

First 2,000 gallons Over 2,000 gallons \$24.90 Minimum Bill 9.21 Per 1,000 Gallons

⁴ Black Mountain's proposed retail tariff is shown below.

⁵ In its Application, Black Mountain incorrectly stated that the impact of the proposed rates on the Green Hill's customers is an increase of \$1.31, or 3 percent.

Staff's findings are summarized in this report. Jack Scott Lawless and David Foster reviewed the calculation of Black Mountain's Overall Revenue Requirements. Jason Green reviewed Black Mountain's reported revenues and rate design.

Summary of Findings

- 1) Overall Revenue Requirement and Required Revenue Increase. Staff found that Black Mountain can justify a total Overall Revenue Requirement for its Water Division of \$2,110,530 and that a water revenue increase of \$389,887, or 24.03 percent, above pro forma present rate water revenues is necessary to generate the Overall Revenue Requirement.
- 2) <u>Rates & Surcharge.</u> Staff finds that a unified tariff is appropriate and should be approved in this proceeding except for a separate surcharge in the amount of \$4.26 per month that would be assessed only to customers receiving service within Black Mountain's service territory that was not acquired through its merger with Green Hills. (Staff refers to this portion of Black Mountain's service territory as "Water Division 1.") This surcharge would not be assessed to Black Mountain customers served within its service territory that was acquired through its merger with Green Hills. (Staff refers to the former Green Hills service territory as "Water Division 2.")

The unified retail water service rates, the surcharge, and the wholesale rate calculated by Staff appear in Attachment A. Calculations are shown and discussed in full detail in Attachment A-1. The impact of the retail rates on a typical residential customer using 4,200 gallons per month appears below.

	Current Staff Rates Rates		Increase/ (Decrease)		Number of Customers	
Water Division 1:						
Water Rate A, Includes Surcharge	\$ 38.30	\$	47.96	\$ 9.66	25.22%	2,114
Water Rate D, Includes Surcharge	31.48		47.96	16.48	52.35%	464
Water Division 2:						
Former Green Hills	44.16		43.70	(0.46)	-1.04%	736

Staff determined the wholesale rate charged to Hyden-Leslie should be increased by the overall percentage increase in the revenue calculated by Staff. Black Mountain's wholesale rate may be increased from \$3.71 per thousand gallons to \$4.60 per thousand gallons, an increase of \$.89, or 24.03 percent.

Depreciable Lives. As discussed in Attachment B of this report, Staff finds that the depreciable lives for Black Mountain's water assets should be adjusted for rate-making purposes and that these lives should be used for accounting purposes in all future reporting periods. These depreciable lives better match the life expectancy of Black Mountain's assets, will better match expenses to revenues, and will minimize the erosion of Black Mountain's equity. Staff further finds that no adjustment to accumulated depreciation and retained earnings should be made to account for the effect of this change in accounting estimate.

Pro Forma Operating Statement

Black Mountain's Pro Forma Operating Statement for the test year ended December 31, 2013, as determined by Staff, appears in the table below.

Operating Revenues	Test Year	Adjustment	(Ref)	Pro Forma
Sales of Water				
Metered Water Sales	\$1,444,084	\$ 66,355 103,824	(A) (A)	\$1,614,263
Sales for Resale	7,448_	1,054	(A)	8,502
Total Sales of Water	1,451,532	104,878		1,622,765
Other Water Revenues	88,689_	9,184	(B)	97,873
Total Operating Revenue	1,540,221	114,062		1,720,638
Operating Expenses				
Operation and Maintenance Expenses				
Salaries and Wages - Employees	323,234	(23,046)	(C)	300,188
Employee Pensions and Benefits	78,339	(862)		77,477
Purchased Water	711,605	50,976	(E)	•
	·	(62,594)		699,987
Purchased Power - Office	4,540	` (9)		4,531
Purchased Power - Pumping	85,460	(7,015)		78,445
Chemicals	1,253	(1,253)		. 0
Materials and Supplies	64,552	(134)	. ,	64,418
Contractual Services	15,094	(31)		15,063
Water Testing	9,482	(664)		8,818
Transportation Expenses	50,768	, ,	• • •	50,768
Insurance - Worker's Comp	11,331	(125)	(D)	11,206
Insurance - Other	19,349	(12)		19,337
Advertising Expenses	3,002		, ,	3,002
Bad Debt Expense	28,119	(13,636)	(K)	14,483
Miscellaneous Expenses	112,008	(3,146)	(L)	
·		(253)		
		(153)		108,457
Total Operation and Maintenance Expenses	1,518,136	(61,956)		1,456,180
Depreciation Expense	577,460	1,199	(B)	
·	•	(85,833)		492,826
Amortization Expense	868	, , ,	` '	868
Taxes Other Than Income / PSC Assessment	2,735		-	2,735
Total Operating Expenses	2,099,199	(146,590)	-	1,952,609
Net Operating Income	(558,978)	260,652		(231,971)
Interest Income	7_		-	7
Income Available to Service Debt	\$ (558,971)	\$ 260,652		\$ (231,964)

- (A) Reversal of Accounting Entry. During the test year, Black Mountain made an accounting entry in the amount of \$66,355 to correct the beginning balance of Customer Accounts Receivables. This entry improperly reduced test-year Metered Water Sales Revenues. The reduction should instead have been made to Retain Earnings. Staff increased the test-year Metered Water Sales by \$66,355 to remove the effects of this accounting error from test-year operations.
- (B) <u>Billing Analysis Adjustment Retail Revenue</u>. With its Application, Black Mountain provided a billing analysis showing the gallons of water sold to retail customers during the test year. By applying the water service rates that were in effect during the test year to the water sales shown in the billing analysis, Staff recalculated test-year billed revenues from retail sales, before water leak and meter misread adjustments, to be \$1,578,884. This amount is separated for each water division as shown below.

Water Division 1:	
Water Rate A	\$ 996,698
Water Rate D	188,374
Water Division 2:	
Former Green Hills	 393,812
Total	\$ 1,578,884

After accounting for test-year leak and meter misread adjustments and for the adjustment correcting the error noted in Ref. Item (A), Staff determined that a billing analysis adjustment that increases test-year revenues by \$31,410 is appropriate. The calculation of this amount is shown below.

Billing Analysis Revenue at Test-Year Rates	\$1	,578,884
Less: Billing Adjustments		(37,035)
Staff's Correcting Entry, Ref. Item (A)		(66, 355)
Reported Test-Year Water Sales Revenue	(1	,444,084)
Increase Necessary to Account for Billing Analysis Adjustment	\$	31,410

(C) <u>Purchased Water Adjustment</u>. Subsequent to the test year, the Commission, pursuant to 807 KAR 5:068, authorized Black Mountain to increase Water Rate A, the rates for Water Division 2, and the wholesale rate charged to Hyden-Leslie in order to pass through the wholesale water rate increases of two suppliers. By applying the retail rates authorized by the Commission to the applicable water sales shown in the billing analysis provided in Black Mountain's Application, Staff determined that pro forma present-rate revenues from retail sales should be stated at \$1,614,263 after accounting for the test-year leak and meter reread adjustments. Below, the revenues are separate by water division.

Water Division 1:	
Water Rate A	\$ 1,050,428
Water Rate D	188,374
Water Division 2:	
Former Green Hills	412,496
Gross Sales	1,651,298
Less: Billing Adjustments	 (37,035)
Pro Forma Present Rate Retail Sales	\$ 1,614,263

⁶ Case No. 2013-00439, *Purchased Water Adjustment Filing of Black Mountain Utility District* (Ky. PSC Jan. 7, 2014).

To state pro forma present rate revenues from retail sales at \$1,614,263, Staff determined that test-year revenues must be increased by an additional \$72,414 as determined below.

Pro forma Present Rate Revenue	\$	1,614,263
Less: Test Year		(1,444,084)
Adjustment Ref. Item (A)		(66,355)
Adjustment Ref. Item (B)		(31,410)
Increase		72,414

Staff determined that test-year wholesale revenues should be increased by \$1,054 as shown below.

Test Year Gallons Sold	2,291,692
Times: New Wholesale Rate per Thousand Gallons	\$ 3.71
Pro Forma Present Rate Revenue	8,502
Less: Test Year	 (7,448)
Increase	\$ 1,054

(D) Other Water Revenue. In 2012, Black Mountain began the construction of a water main relocation project that was completed in 2013. The cost of the project was funded with state contributions. Proper accounting requires that the cost of the main be reported as a depreciable asset in account 101, Utility Plant in Service,⁷ and that the contributions be reported using account 432, Proceeds from Capital Contribution.⁸

During the test year, Black Mountain received \$50,768 in reimbursements and expended \$59,952 in construction costs that were related to the relocation project. It

⁷ Uniform System of Accounts for Water Districts and Associations at 40.

⁸ Id. at 86.

improperly reported these receipts and payments to account 474, Other Water Revenue. This error resulted in a net decrease to Black Mountain's operating revenue in the amount of \$9,184. To remove the effects of this accounting error from Black Mountain's pro forma operating statement, Staff increased Other Water Revenue by \$9,184 and increased test-year depreciation expense by \$1,199.9

(E) <u>Salaries and Wages</u>. During the test year, Black Mountain reported total wages expense for the Water Division in the amount of \$323,234. No test-year wages were reported by the Sewer Division. As shown in the table below, Staff calculated Black Mountain's total pro forma employee wage expense to be \$303,529 by multiplying each employee's current pay rate by 2,080 regular work hours and overtime hours worked during the test year. Staff's method accounts for current wage rates and annualizes test-year wages paid to an employee hired subsequent to the test year to replace an employee who retired.

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Transmission and Distribution Main Divide by: Depreciable Life

59,952 50

Increase

\$ 1,199

	2015	Wages	2013 Hours			Total
Position & Title	Regular	Overtime	Regular	Overtime	5	Salaries
		-		_		
Field Employees						
Employee 1	\$ 19.54	\$ 29.31	2,080	356.50	\$	51,092
Employee 2	13.90	20.85	2,080	651.00		42,485
Employee 3	13.90	20.85	2,080	613.00		41,693
Employee 4	12.23	18.35	2,080	638.50		37,152
Employee 5	11.67	17.51	2,080	400.00		31,276
Office Employees			•			•
Employee 6	9.69	14.54	832	34.50		8,564
Employee 7	9.33	14.00	2,080	49.00		20,092
Employee 8	12.33	18.50	2,080	66.70		26,880
Superintendent	Salary		•			44,295
				•		
Pro Forma Wage Exp	ense				\$	303,529

As discussed below, Staff determined that \$300,188¹⁰ of the total pro forma wages should be allocated to the Water Division. Accordingly, Staff decreased the Water Division's test-year employee wage expense by \$23,046.¹¹

Allocation of Office Employee Wages to the Water Division. As shown in the table above, pro forma wages include two full-time employees and one part-time

10	-		
	Office Employees	\$	55,419
	Field Employees		200,961
	Superintendent		43,808
	Total Pro Forma Allocation	\$	300,188
11			
11			
	Pro Forma Water Division Wages	\$	300,188
	Less: Test Year		(323,234)
	Decrees	•	(00.040)
	Decrease	<u> </u>	(23,046)

employee who perform administrative duties for the Water Division and the Sewer Division. The amount of time these employees dedicate to each division is directly related to the number of customers served by each division. Accordingly, Staff allocated office wages based on the number of customers served by each division¹² as shown below.

	Pro Forma	Adjustment Water Division		Water		Div	ewer vision 21%
Office Employees	7701011110		0.70	0.	_ 1 /0		
Employee 6	\$ 8,564	\$	8,546	\$	18		
Employee 7	20,092		20,050		42		
Employee 8	26,880		26,824		56		
Total	\$ 55,536	\$	55,419	\$	117		

Allocation of Field Employee Wages to Sewer Division. Black Mountain has five full-time employees dedicated entirely to field operations. All test-year field employee wages were reported by the Water Division. Staff determined during the field review that employee number 1 spends approximately 2.5 hours per week inspecting the wastewater system. These inspections are necessary to ensure that the plant is operating properly. The portion of the field wages that are attributable to performance

12

	Number of Customers	Allocation Factor		
Water Division	3,357	99.79%		
Sewer Division	7	0.21%		
Total	3,364	100%		

of the daily wastewater inspections should be allocated to the Sewer Division. Staff calculated this amount to be \$2,726 as shown below.

Wages for Field Employee that		
Performs Wasewater Inspections	\$	51,092
Divide by: Hours Worked in Test Year		2,437
Hourly Rate	\$	20.97
Times: 130 Hours (2.5 hours per		
week x 52 weeks per year)		130
	-	
Allocation to Sewer Division	\$	2,726

Also, Employee number 5 as listed above in Staff's pro forma wage calculation spends approximately three days per month, or 13.85 percent of his time, ¹³ reading water meters. Because sewer bills are calculated using water meter readings, pro forma meter reading wages should be allocated between the divisions. Staff finds that the number of customer allocation factor is appropriate for this allocation. As shown below, Staff determined that \$5,144 of Black Mountain's pro forma wage expense is attributable to meter reading and that \$5,133 of that amount should be allocated to the Water Division and \$11 allocated to the Sewer Division.

Number of Days to Read Meters 3
Times: 12 Months 12
Total Days 36

Divide by: Annual Workdays 260

Percentage of Time Meter Reading 13.85%

					Allocated To					
			Met	er		Nater		Sewer		
			Reading		D	ivision	Division			
	Pr	o Forma	13.85%		9	9.79%	0.21%			
Employee 4	\$	37,152	\$	5,144	\$	5,133	\$	11		

Staff's allocation of pro forma field employee wages between the divisions is summarized below.

		Allocated to			
	Pro	Water			Sewer
	Forma	Division			Division
Field Employees					
Employee 1	\$ 51,092	\$	48,366	\$	2,726
Employee 2	42,485		42,485		
Employee 3	41,693		41,693		
Employee 4	37,152		37,141		11
Employee 5	 31,276		31,276		
Total	\$ 203,698	\$	200,961	\$	2,737

Allocation of Superintendent. The Superintendent directs and oversees the duties of all employees. Accordingly, Staff allocated the Superintendent's pro forma salary to the Water Division and to the Sewer Division based on the blended percentage of 1.10 percent resulting from the allocated pro forma wages of Black Mountain's other employees as shown below.

		Pro Forma Employee Wages	Percent Allocated	Pro Forma Superintendent Allocation		
Water Division Sewer Division	\$	256,380 2,854	98.90% 1.10%	•	43,807 488_	
Total	\$	259,234	100.00%	\$	44,295	

(F) Allocation of Employee Salary and Wage Overhead Charges. Black Mountain pays health and dental insurance premiums, workers compensation insurance, and payroll taxes on behalf of its employees. Staff finds that the pro forma wage overhead charges should be allocated between the Water Division and Sewer Division, 98.90 percent and 1.10 percent, 14 respectively, following the level of pro forma employee wages and salaries expense that was allocated to each division. Allocations of pro forma wage overheads are shown below.

					Times:		
					Overali		
				Pro Forma	Wage	Alle	ocated
			Pro Forma	Subject to	Allocation	to	Sewer
	Te	est Year	Adjustment	Allocation	Factor	Di	vision
Health and Dental Insurance	\$	78,339		78,339	1.10%	\$	862
Workers Comp Insurance		11,331		11,331	1.10%		125
Payroll Taxes / Misc. Exp.		26,110	(3,146)	22,964	1.10%		253

Pro Forma Wages Allocated to Sewer \$ 3,341 1.10%
Pro Forma Wages Allocated to Water 300,188 98.90%

Total \$ 303,529 100.00%

- (G) Changes to Wholesale Purchase Water Rates. Black Mountain purchases wholesale water for resale from the cities of Evarts, Pineville, and Harlan. During the test year, Pineville and Harlan increased their rates to Black Mountain. Subsequent to the test year, Harlan implemented another increase to its wholesale water rates. Black Mountain proposed to increase its test-year Purchased Water expense of \$50,976 to account for the increases to its wholesale water purchase rates. Staff agrees that this adjustment fairly represents, in all material respects, the increase to Black Mountain's test-year purchased water expense that will result from the suppliers' current wholesale water rates. Staff accepted Black Mountain's adjustment.
- (H) <u>Water Loss</u>. Using information provided by Black Mountain, Staff determined that Black Mountain's test-year water loss was 23.21 percent,¹⁵ or 8.21 percent above the 15 percent allowed for ratemaking purposes by 807 KAR 5:066, Section 6(3). As calculated below, Staff removed the cost to purchase and pump water above the allowable limit.

rease	
2,594)	
(7,015)	
3,900	
(171,969,036)	
0,000)	
0,000)	
4,864	
3,900	
3.21%	
3,: 9,: 0,: 4,: 3,:	

(I) Administrative Operating Expenses. As listed in the table below, Black Mountain incurred test-year administrative and general expenses that totaled \$157,742. While these expenses are related to customer service and administrative activities for both the Water Division and the Sewer Division, the entire test-year amount was reported as an expense of the Water Division. The portion of these expenses that can be attributed to the Sewer Division should be removed when determining the Water Division's pro forma operations. Since there is a direct correlation between these expenses and the number of customers served by each division, Staff finds that the number-of-customer allocation factor, as calculated in footnote 12, is appropriate for allocating these costs. As shown in the table below, Staff reduced the Water Division's test-year administrative operating expenses by \$328.

		Allocated To				
				Water	Se	ewer
•				Division	Div	vision
	Te	st Year		99.79%	0.	21%
Purchased Power, Office	\$	4,540	\$	4,531	\$	9
Materials and Supplies		64,552		64,418		134
Contractual Services - Accounting / Audit		15,094		15,063		31
Reported as Miscellaneous Expense		73,556		73,402		153
	<u>\$ 1</u>	57,742	\$	157,413	\$	328

- (J) <u>Chemicals</u>. During the test year, Black Mountain's Water Division reported \$1,253 for Chemicals Expense. This expense is entirely attributed to sewer operations. Staff removed this expense from the Water Division's test-year expenses.
- (K) <u>Water Testing</u>. During the test year, Black Mountain reported \$9,482 for testing of potable water and wastewater. The entire amount was reported by the Water

Division. From vendor invoices provided to Staff by Black Mountain, Staff determined that \$664 of the test-year amount was incurred to perform quarterly wastewater testing. Staff reduced the Water Division's test-year expense by this amount.

(L) <u>General Liability Insurance Expense</u>. During the test year, Black Mountain expensed \$19,006 that was paid to the Kentucky Association of Counties ("KACo") for general liability insurance. While this insurance policy benefitted both Black Mountain's Water Division and Sewer Division, the entire premium was reported as an expense to the Water Division. The portion of the premium that can be attributed to the Sewer Division should be removed from the Water Division's test-year operations and accounted for as an expense of the Sewer Division.

The documents provided to Black Mountain by KACo that were reviewed by Staff did not separate the insurance premium between the divisions. Absent KACo's separation, Staff allocated the test-year premium based on the test-year revenues reported by each division, recognizing that the Commission has determined in prior cases that general liability insurance premiums can be directly correlated to a utility's revenues. Using this allocation method, Staff determined that \$12 should be removed from the Water Division's test-year operations as calculated below.

¹⁶ Case No. 2008-00032, Application of Burkesville Gas Company for an Adjustment of Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities (Ky. PSC Oct. 31, 2008) at 8 and Case No. 2009-00227, Alternative Rate Filing Application of Middletown Waste Disposal, Inc. (Ky. PSC Apr. 30, 2010) at 5, n.13.

	2013 Revenues	Times: Percentage of Total	Allocated Liability Insurance Expense			
Water Sewer	\$1,451,532 888_	99.94% 0.06%	\$	18,994 12		
Total	\$1,452,420	100.00%	\$	19,006		

(M) <u>Bad Debt Expense</u>. As part of its limited financial review, Staff prepared the following table comparing the level of bad debt expenses reported for the test year, and each of the three preceding years, to the residential and commercial water sales revenues reported for those same years.

	2010	2011	2012	2013
Bad Debt Expense Divide by: Res. and Comm. Sales	\$ 14,459 1,155,684	\$ 10,732 1,165,676	\$ - 1,332,953	\$ 28,119 1,415,817
Percentage of Bad Debts to Sales	 1.25%	0.92%	0.00%	1.99%

Staff's analysis indicates that uncollectible accounts that were included in 2012 revenues were not properly reported as a bad debt expense in 2012. They were instead reported a year later with the 2013 uncollectible accounts. The combined uncollectible accounts of \$28,119 for the two years are included in Black Mountain's test-year operations. The 2012 uncollectible accounts should be removed from test-year operations to correct this accounting error.

Black Mountain's accounting and billing records were not maintained in a manner that allowed Staff to readily identify and separate the uncollectible accounts for 2012 from the uncollectible accounts for 2013. Absent the actual amounts, Staff allocated the combined bad debt expense reported for 2013 between 2012 and 2013 based on the

residential and commercial water sales revenues reported during those years. Staff's calculations are shown below.

Year	Water Sales Revenues	Times: Percentage of Total	Allocated Bad Debt Expense		
2012 2013	\$ 1,332,953 1,415,817	48.49% 51.51%	\$	13,636 14,483	
Total	\$ 2,748,770	0.110170	\$	28,119	

Accordingly, Staff removed \$13,636 from test-year operations. As shown in the table below, Staff's method of adjustment results in a percentage of bad debt expense for both 2012 and 2013 that is consistent with the percentage of bad debt expense in the two prior years of approximately 1 percent of retail water sales revenues, a level generally found appropriate for water districts that have effective revenue collection practices.¹⁷

		2010	2011	2012 Adjusted	2013 Adjusted
Bad Debt Expense Divide by: Res. and Comm. Sales	\$	14,459 1,155,684	\$ 10,732 1,165,676	\$ 13,636 1,332,953	\$ 14,483 1,415,817
Percentage of Bad Debts to Sales	_	1.25%	0.92%	1.02%	1.02%

(N) <u>Taxes Other Than Income – FICA Taxes</u>. In the test year, Black Mountain reported payroll taxes as a Miscellaneous Expense. Below, Staff calculated the Water

¹⁷ See Staff Report dated January 29, 2013, in Case No. 2012-00433, *Application of West Carroll Water District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities*.

Division's pro forma payroll taxes by multiplying its pro forma taxable wages by the payroll tax rate. Accordingly, Staff decreased Miscellaneous Expenses by \$3,146.

Pro Forma Water Division Wages Subject to FICA Taxes Times: FICA Tax Rate	\$	300,188 7.65%
Pro Forma FICA Tax Expense Less: Test -Year FICA Taxes		22,964 (26,110)
Decrease	_\$_	(3,146)

(O) <u>Depreciation Expense</u>. Black Mountain reported \$577,460 for test-year depreciation expense. This amount was calculated by dividing the plant's original cost by its estimated useful life. A summary of Staff's review of the estimated useful lives is found at Attachment B to this report. To account for the effects of the changes to the lives recommended in Attachment B, Staff decreased depreciation expense by \$85,833 as shown below.

Account Group	Depreciable Basis	Depreciable Life	Pro Forma Depreciation Expense	Less: Test Year	Adjustment
Pumping Equipment	530,105	20	26,505	25,641	864
Water Treatment Eq.	135,806	25	5,432	2,716	2,716
Dist. Res. & Standpipes	2,221,632	45	49,370	91,262	(41,892)
Meters	590,478	40	14,762	23,619	(8,857)
Transportation Equipment	9,212	7	1,316	2,337	(1,021)
Structures	89,220	37.5	2,379	5,948	(3,569)
Trans & Dist Mains	2,105,166	50	42,103	84,207	(42,103)
Meters and Installations:	55,324	45	1,229	2,213	(984)
Telemetry	270,402	10	27,040	18,027	9,013
Decrease					(85,833)

Overall Revenue Requirement and Required Revenue Increase

The Commission has historically applied a Debt Service Coverage ("DSC") method to calculate the Overall Revenue Requirement of water districts and water associations. This method allows for recovery of: 1) cash-related pro forma operating expenses; 2) depreciation expense, a non-cash item, to provide working capital; 18 3) the average annual principal and interest payments on all long-term debts; and 4) working capital that is in addition to depreciation expense. A comparison of Black Mountain's and Staff's calculations of Black Mountain's Overall Revenue Requirement and Required Revenue Increase using the DSC method is shown below.

¹⁸ The Kentucky Supreme Court has held that the Commission must permit a water district to recover its depreciation expense through its rates for service to provide internal funds to be used for renewing and replacing assets. See Public Serv. Comm'n of Kentucky v. Dewitt Water Dist., 720 S.W.2d 725, 728 (Ky. 1986). Neither the Commission nor the Court requires that revenues collected for depreciation be accounted for separately from a water district's general funds or that depreciation funds be used only for asset renewal and replacement. The Commission has recognized that the working capital provided through recovery of depreciation expense may be used for purposes other than renewal and replacement of assets. See, e.g., Case No. 2012-00309, Application of Southern Water and Sewer District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities, Case No. 2012-00309 (Ky. PSC Dec. 21, 2012).

	Black Mountain Utility District		Staff	
Pro Forma Operating Expenses Plus: Average Annual Principal	\$	2,151,470	\$	1,952,609
and Interest Payments on Current Debts		131,601		131,601
Additional Working Capital		13,160		26,320
Overall Revenue Requirement Less: Other Operating Revenue Interest Income		2,296,231 (88,696) (7)		2,110,530 (97,873) (7)
Revenue Required From Rates		2,207,528		2,012,650
Less: Pro Forma Present Rate Service Revenues		(1,658,744)		(1,622,765)
Required Revenue Increase	\$	548,784	\$	389,885
Percent Increase		33.08%		24.03%
	_			

(1) Average Annual Principal and Interest Payments. Black Mountain has seven outstanding bond series payable to the United States Department of Agriculture Rural Development ("RD") and two Loans Payable to Kentucky Infrastructure Authority. In its Application, Black Mountain requested recovery of the three-year average principal and Interest payments due in 2015, 2016, and 2017. Staff agrees that the amount requested by Black Mountain, \$131,601 represents, in all material respects, the average annual debt payments that will be made in each year that the water rates approved by the Commission in this proceeding will be in effect.

(2) Additional Working Capital. The DSC method, as historically applied by the Commission, includes an allowance for additional working capital that is equal to the minimum net revenues required by a district's lenders that are above its average annual debt payments. In addition to depreciation expense, Black Mountain requested recovery of an allowance for working capital that is equal to 10 percent of its average annual debt payments.

RD requires that Black Mountain charge rates that produce net revenues that are at least 120 percent of its average annual debt payments. Following the Commission's historic practice, Staff calculated Black Mountain's allowance for additional working capital, based on a DSC ratio of 1.20, to be \$26,320, as shown below.¹⁹ Staff included this amount in the calculation of Black Mountain's Overall Revenue Requirement.

¹⁹ Inclusion of the additional working capital in Black Mountain's revenue requirement is not necessary for it to earn revenues that meet the minimum DSC ratio required by its lenders. As depreciation is a noncash item, it is excluded from the ratio calculation, which is actually a measure of cash flow. As shown below, Black Mountain's minimum DSC ratio is met with or without the inclusion of additional working capital.

			Without
	With Add	itional	Additional
	Working (Capital W	orking Capital
Overall Revenue Requirement	\$ 2,11	0,530 \$	2,084,210
Less: Operating and Maintenance Expense	(1,45	6,180)	(1,456,180)
Taxes/ PSC Assessment	(2,735)	(2,735)
Net Revenues	65	1,615	625,295
Divided by: Average Annual Debt Payments	13	1,601	131,601
DSC Ratio		495%	475%

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Average Annual Principal and Interest Times: DSC Ratio	\$ 131,601 120%
Total Net Revenues Required Less: Average Annual Principal and Interest Payments	 157,921 (131,601)
Additional Working Capital	\$ 26,320

Signatures

Prepared by: Jack Scott Lawless, CPA Financial Analyst, Water and Sewer Revenue Requirements Branch Division of Financial Analysis

Prepared by: David P. Foster Financial Analyst, Water and Sewer Revenue Requirements Branch Division of Financial Analysis

Prepared by: Jason Green Rate Analyst, Communications, Water and Sewer Rate Design Branch

Division of Financial Analysis

ATTACHMENT A STAFF REPORT CASE NO. 2015-00088 RATES CALCULATED BY STAFF

Monthly Rates

Division 1

First All Over	2,000 gallons 2,000 gallons		•	Minimum bill per 1,000 Gallons
Monthly Su	ırcharge		\$4.26	
First	2,000 gallons	Division 2	\$ 25.13	Minimum bill

Wholesale

8.44 per 1,000 Gallons

All Over

2,000 gallons

Wholesale Rate \$4.60 per 1,000 Gallons

Division 1 represents all of Black Mountain's service territory that was not acquired through its merger with Green Hills Water District.

Division 2 represents all of Black Mountain's service territory that was served by Green Hills Water District immediately prior to the merger of Green Hills Water District and Black Mountain Water District.

ATTACHMENT A-1 STAFF REPORT CASE NO. 2015-00088 CALCULATION OF SURCHARGE AND RATES

In its Application, Black Mountain did not explain why it sought to unify its existing tariff; however, during Staff's field visit, Black Mountain stated that the unified tariff would simplify its current tariff, eliminate significant administrative burden on its employees, and eliminate customer confusion created by the current tariff.

While Staff recognizes that Black Mountain's customer base is divided into three distinct distribution systems with each system purchasing wholesale water from different providers at different rates, and that this operating characteristic supports Black Mountain's current retail rate structure, Staff finds that rate unification in this proceeding will provide the benefits noted by Black Mountain and would allow all customers to realize, in full, the economies of scale that generally accompany mergers.²⁰ Further,

Through unified rates, customers of the same class share equally in all costs, whether or not the cost, such as capital improvements, benefits them directly. If rates are not unified, these costs may be borne only by those directly benefiting. While rate unification may then appear to result in short-term inequities, i.e, customers' paying for costs from which they derive no benefit, unified rates are thought to result in an equitable distribution of costs over the long term since, for example, infrastructure used to serve all customers will eventually need improving.

Staff notes that the Commission, recognizing these benefits, has allowed rate unification of many other water utilities.²¹

While Staff would prefer to find that complete unification of Black Mountain's tariff in this proceeding is appropriate, it cannot. Staff finds that a surcharge to be assessed only to Black Mountain's Water Division 1 customers is appropriate in this proceeding to ensure that Black Mountain remains compliant with the Commission's Order in Case No 2012-00095. There, the Commission ordered that Black Mountain "retire bonded obligations secured by the revenue from either Green Hills District or Black Mountain District in accordance with KRS 74.363(4)."

KRS 74.363(4) states, in part, that "[b]onded obligations of any district...secured by the revenue of the systems...shall continue to be retired...from funds collected over the same area by the new board of commissioners..." At the time Black Mountain merged with Green Hills, Black Mountain had nine outstanding debt obligations that are currently outstanding. Black Mountain currently has no outstanding debt obligations

²¹ See, Case No. 95-335, The Application of South Eastern Water Association, Inc. of Pulaski County, Kentucky, for Order Approving Construction Financing, Certificate of Public Convenience and Necessity and Increased Rates (Ky. PSC Sept. 13, 1995); Case No. 96-006, In The Matter of the Application of the Cumberland County Water District, a Water District Organized Pursuant to Chapter 74 of the Kentucky Revised Statutes, in Cumberland County, Kentucky, for (1) a Certificate of Public Convenience and Necessity Authorizing and Permitting Said Water District to Construct Water Distribution System Improvements, Consisting of Project Hereinafter Identified; (2) the Approval of the Proposed Plan of Financing for Said Project; and (3) the Approval of Rates and Charges for Water Service Supplied by the District Pursuant to KRS 278.023 (Ky. PSC Feb. 6, 1996); Case No. 97-320, In the Matter of the Verified Joint Application of Boonesboro Water Association, Inc. and Kentucky-American Water Company for Approval of the Transfer of the Ownership of the Assets of Boonesboro Water Association, Inc. to Kentucky-American Water Company (Ky. PSC Oct. 16, 1997); Case No. 2001-00429, The Application of Western Pulaski County Water District for a Certificate of Public Convenience and Necessity to Construct, and Increase Rates Pursuant to KRS 278.023 (Ky. PSC Jan. 9, 2002); Case No. 2007-00143, Adjustment of Rates of Kentucky-American Water Company (Ky. PSC Nov. 29, 2007); and Case No.2012-00278, Application of Graves County Water District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities Sep. 5, 2012).

²² Case No. 2012-00095, Application of Black Mountain Utility District and Green Hills Water District for Merger Pursuant to KRS 74.363 (Ky. PSC July 13, 2012) at 10.

that were payable by Green Hills. Staff finds that a surcharge for Water Division 1 is appropriate and is consistent with previous Commission Orders.²³

<u>Surcharge</u>

For the purpose of retiring the nine debt obligations currently owed by Black Mountain, Staff calculated a surcharge in the amount of \$4.26 to be assessed monthly to the Water Division 1 customers. The amount of the surcharge is calculated below.

Average Annual Debt Principal and Interest Payment	\$	131,601
Divide by: Number of Water Division 1 Customers		2,578
12 Months		12
Morthly Cyroborno	Φ.	4.00
Monthly Surcharge	_\$_	4.26

The amount of the surcharge may be reduced from time to time, with the Commission's approval, as each of the nine debt obligations is fully retired. Also, to ensure compliance with KRS 74.361(5), Black Mountain would deposit all surcharge proceeds into a separate interest-bearing account from which disbursements may only be made for the purpose of retiring the existing debts. If at any time the cash balance of the surcharge account is not sufficient to pay a principal or interest payment, the additional cash deposit that is necessary to make payment shall come from the revenues received through the assessment of the Water Division I water service rates.

In order for the Commission to monitor Black Mountains surcharge activity, Black Mountain would include as a part of its Annual Report filed with the Commission a surcharge summary report that includes: the amount of surcharge billings and

²³ For example, in Case No. 1996-00192, *Adjustment of Rates of the Bracken County Water District* (Ky. PSC Mar. 5, 1997) the Commission unified the rates of both divisions of Bracken County Water District except for separate surcharges. The surcharge proceeds were to be used to retire the debts owed by the former districts prior to merger.

collections for each month; a list of loan payments made during the year that shows principal and interest payments separately; and copies of monthly bank statements for the surcharge account.

Rates

Staff developed a unified rate structure that it finds appropriate for Black Mountain to recover all revenue requirements found reasonable by Staff except the debt principal and interest payments that will be recovered through the Water Division 1 surcharge. The unified rates were developed following the commodity demand methodology that is recognized in the Manual M-1 that is published by the American Water Works Association. Through this method, Staff allocated Black Mountain's Overall Revenue Requirement to Black Mountain's customers in proportion to the cost of providing service to those customers. This method recognizes that a utility must meet peak demand requirements as well as the customer's average water use. Staff's calculations are shown in the following tables.

ALLOCATION OF PLANT VALUE

	TOTAL	COMMODITY	DEMAND	CUSTOMER
Structures & Improvements	\$162,668.00		\$162,668.00	
Land & Land Rights	29,112.00		29,112.00	
Wells & Springs	10,508.00		10,508.00	
Pumping Equipment	1,341,716.00		1,341,716.00	
Distribution Reservoirs & Standpipes	2,352,581.00		2,352,581.00	
Transmission & Distribution Mains	15,479,838.00		15,479,838.00	
Meters & Meter Installations	645,802.00			\$645,802.00
Water Treatment Equipment	141,978.00		141,978.00	
SUBTOTAL	\$20,164,203.00	\$0.00	\$19,518,401.00	\$645,802.00
PERCENT	100.00%	0.00%	96.80%	3.20%
General Plant (1)				
Other Plant & Misc.	29,395.00		28,453.56	941.44
Organization	1,597.00		1,545.85	51.15
Franchises	840.00		813.10	26.90
Transportation Equipment	85,325.00		82,592.28	2,732.72
Power Operated Equipment	83,172.00		80,508.24	2,663.76
Communication Equipment	270,402.00		261,741.79	8,660.21
Office Furniture & Equipment	56,461.00		54,652.71	1,808.29
TOTAL VALUE	\$20,691,395.00	\$0.00	\$20,028,708.54	\$662,686.46

⁽¹⁾ Gereral Plant allocated based on overall weighted allocation of all other plant.

Note: Figures used were derived from 2013 annual report

ALLOCATION OF DEPRECIATION EXPENSE

	TOTAL	COMMODITY	DEMAND	CUSTOMER
Structures & Improvements	\$50,842.00		\$50,842.00	
Wells & Springs	10,507.00		10,507.00	
Pumping Equipment	250,616.00		250,616.00	•
Distribution Reservoirs & Standpipes	534,081.00		534,081.00	
Transmission & Distribution Mains	2,857,026.00		2,857,026.00	
Meters & Meter Installations	72,223.00			\$72,223.00
Water Treatment Equipment	84,118.00		84,118.00	
SUBTOTAL	\$3,859,413.00	\$0.00	\$3,787,190.00	\$72,223.00
PERCENT	100.00%	0.00%	98.13%	1.87%
General Plant (1)				
Other Plant & Misc.	29,395.00		28,844.92	550.08
Organization	1,170.00		1,148.11	21.89
Franchises	617.00		605.45	11.55
Transportation Equipment	78,658.00		77,186.04	1,471.96
Power Operated Equipment	50,424.00		49,480.39	943.61
Communication Equipment	18,027.00		17,689.65	337.35
Office Furniture & Equipment	45,079.00		44,235.42	843.58
TOTAL VALUE	\$4,082,783.00	\$0.00	\$4,006,379.97	\$76,403.03

⁽¹⁾ Gereral Plant allocated based on overall weighted allocation of all other plant. Note: Figures used were derived from 2013 annual report

SUMMARY OF ALLOCATIONS

	TOTAL	COMMODITY	DEMAND	CUSTOMER
Plant Percentages	100.00%		96.80%	3.20%
Additional Working Capital	\$26,320.00		\$25,477.05	\$842.95
Debt Service Coverage				
Depreciation Percentages	100.00%		98.13%	1.87%
Total Depreclation	492,826.00		483,603.52	9,222.48
Total Operation & Maintenance	1,459,783.00	782,963.00	438,591.77	238,228.23
Less: Other Operating Revenue				-97,873.00
Less: Interest Income				-7.00
Less: Wholesale Revenue		-8,502.00		
COST TO BE RECOVERED FROM BASE RATES	\$1,872,547.00	\$774,461.00	\$947,672.33	\$150,413.67
REVENUE FROM SURCHARGE	<u>\$ 131,601.00</u>			
REVENUE REQUIRED FROM RETAIL RATES	\$2,004,148.00			
REVENUE FROM WHOLESALE	<u>\$8,502.00</u>			
DEVENUE DECLUDED EDOM DATES	40.040.050.00			
REVENUE REQUIRED FROM RATES	\$2,012,650.00			

CALCULATION OF WATER RATES

	TOTAL	FIRST 2,000	OVER 2,000
FROM BILLING ANALYSIS:			
COMMODITY PERCENTS	100.00%	39.84%	60.16%
ACTUAL COMMODITY SALES	171,969,036	68,513,213	103,455,823
PEAK DEMAND WEIGHTED FACTOR		2	1
PEAK DEMAND WEIGHTED SALES	240,482,249	137,026,426	103,455,823
DEMAND PERCENTS	100.00%	56.98%	43.02%
COMMODITY COSTS	\$774,461.00	\$308,548.64	\$465,912.36
DEMAND COSTS	\$947,672.33	\$539,982.28	\$407,690.05
CUSTOMER COSTS TOTAL COSTS	\$150,413.67 \$1,872,547.00	\$150,413.67 \$998,944.58	\$873,602.42
DIVIDE BY BILLS/GALLONS CALCULATED RATES		39,756 \$25.13 FIRST 2,000	103,455,823 \$8.44 OVER 2,000

VERIFICATION OF RATES

FIRST OVER	2,000 GALLONS 2,000 GALLONS	BILLS 39,756	GALLONS 68,513,213 103,455,823	RATES \$25.13 8.44	REVENUE \$998,944.58 873,602.42
ACTUAL COMM	ODITY SALES		171,969,036		
REVENUE FRO	OM SURCHARGE			\$4.26	131,787.36
REVENUE FRO	OM WHOLESALE		2,291,692	\$4.60	10,541.78
TOTAL REVEN	UE				\$2,014,876.14

ATTACHMENT B STAFF REPORT, CASE NO. 2015-00088 BLACK MOUNTAIN UTILITY DISTRICT ENGINEERING DIVISION'S ANALYSIS OF ASSET SERVICE LIVES

Historically, the Commission has relied on the National Association of Regulatory Utility Commissioners Study of Depreciation Practices for Small Water Utilities ("NARUC Study"), dated August 15, 1979, to evaluate the reasonableness of a utility's depreciation practices. This study outlines expected service life ranges for various asset groups designed, installed, and maintained in accordance with good water works practices. Typically, an adjustment is made when the Commission finds that a utility is proposing to use a service life that falls outside of this range, while service lives falling within these ranges are generally accepted.

In the following table, Engineering Staff has identified the account classifications for which the utility's current service lives are not consistent with the service lives contained in the NARUC Study. The table shows the utility's current and Engineering Staff's recommended reasonable and appropriate service lives based on a review of information contained in the record of this case.

Asset Classification	Current	Staff Recommended	NARUC Study
Pumping Equipment	15, 25	20	20
Water Treatment Eq.	50	25	20-35
Dist. Res. & Standpipes	20, 25, 50	45	30-60
Meters	25	40	35-45
Office Furniture & Eq.	5	22.5	20-25
Transportation Equipment	3, 5	7	7
Structures	15	37.5	35-40
Trans & Dist Mains	25	50	50-75
Meters and Installations: Installations	25	45	40-50
Telemetry	5,15	10	10

Absent any specific and verifiable evidence supporting alternative service lives, Engineering Staff finds that service lives based on the NARUC Study, as shown in the above table, should be considered reasonable and appropriate.

Prepared July 10, 2015

deorge W. Wakim, P.E.

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