

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF SOUTHERN WATER AND SEWER DISTRICT FOR AN ALTERNATIVE RATE ADJUSTMENT)
CASE NO.)
2019-00131)

NOTICE OF FILING OF COMMISSION STAFF REPORT

Notice is hereby given that, in accordance with the Commission's Order of July 17, 2019, the attached report containing the findings of Commission Staff (Staff) regarding the Applicant's proposed rate adjustment has been filed in the record of the above-styled proceeding. Pursuant to the Commission's July 17, 2019 Order, Southern Water and Sewer District is required to file written comments regarding the findings of Commission Staff no later than 14 days from the date of this report.



Gwen R. Pinson
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATE AUG 15 2019

cc: Parties of Record

STAFF REPORT
ON
SOUTHERN WATER AND SEWER DISTRICT
CASE NO. 2019-00131

Southern Water and Sewer District (Southern District) is a water utility district, organized pursuant to KRS Chapter 74, that owns and operates a water distribution system through which it provides retail water service to approximately 5,399 customers residing in Floyd and Knott counties, Kentucky.¹ On April 19, 2019, Southern District tendered an application (Application) to the Commission requesting to increase its water service rates pursuant to 807 KAR 5:076. On April 29, 2019, the Attorney General filed a motion to intervene. By Order dated May 1, 2019, the Attorney General's motion was granted. To ensure the orderly review of the Application, the Commission established a procedural schedule by Order dated May 16, 2019, but due to the delay in some of the responses to requests made by Staff, an amended procedural schedule was issued on July 17, 2019. On June 6, 2019, the Commission approved emergency rates on an interim basis that established a flat rate of \$58.82 per month for retail customers and a cost-based rate for wholesale customers.² On July 17, 2019, the June 6, 2019 Order was amended to establish volumetric rates for all commercial retail customers and to continue the flat rate for residential retail customers and cost-based rate for wholesale customers.

¹ *Annual Report of Southern Water & Sewer District to the Public Service Commission for the Calendar Year Ended December 31, 2018* ("Annual Report") at 12 and 48.

² Fifteen percent of Southern District's residential customers have zero read meters, which do not accurately report water usage and permit those customers to receive a financial benefit by consuming more water than they are paying for. As a result, the Commission determined that there was no equitable way to ensure that Southern District's ratepayers received fair, just, and reasonable treatment other than to institute a flat rate for the interim period.

Southern District based its requested rates on a historical test period that coincides with the reporting period shown in its most recent Annual Report on file with the Commission at the time it filed the Application, the calendar year ended December 31, 2018, as required by 807 KAR 5:076, Section 9.

Southern District provided exhibits in its Application demonstrating that a 32.29 percent increase was reasonable, and requested an across-the-board increase to its current base water rates. The rates requested by Southern District would increase the monthly bill of a typical residential customer³ by \$13.76, from \$42.60 to \$56.36, or approximately 32.30 percent. Southern District presented financial exhibits in the Application that demonstrated how it calculated the amount of increase it could have justified. The exhibits are summarized below in condensed form.

Pro Forma Operating Expenses	\$3,382,334
Plus: Average Annual Principal and Interest Payments	476,489
Additional Working Capital	<u>95,298</u>
Overall Revenue Requirement	3,954,121
Less: Other Operating Revenue	(62,246)
Interest Income	(4,001)
Nonutility Income	<u>(26,091)</u>
Revenue Required from Rates	3,861,783
Less: Pro Forma Present Rate Service Revenues	<u>(2,919,194)</u>
Required Revenue Increase	<u>\$ 942,589</u>
Percentage Increase	<u>32.29%</u>

To determine the reasonableness of the rates requested by Southern District, Staff performed a limited financial review of Southern District's test-year operations. The scope

³ A typical residential customer purchases 4,000 gallons of water per month through a 5/8-inch x 3/4-inch meter.

of Staff's 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. Insignificant and immaterial discrepancies were not necessarily pursued or addressed.

Staff's findings are summarized in this report. Ariel Miller and Travis Leach reviewed the calculation of Southern District's Overall Revenue Requirement. Eddie Beavers reviewed Southern District's reported revenues and rate design.

SUMMARY OF FINDINGS

1. Overall Revenue Requirement. By applying the Debt Service Coverage (DSC) method, as generally accepted by the Commission, Staff found that Southern District's Overall Revenue Requirement is \$3,773,268. Staff did not calculate a required revenue increase as explained on page 13 of this report.

2. Water Service Rates. Southern District proposes an across-the-board increase in rates of approximately 32.30 percent. The Commission has previously found that an across-the-board increase is an appropriate and equitable method of cost allocation in the absence of a cost-of-service study. At the direction of the Commission, Staff has prepared a Cost-of-Service Study (COSS) with the available information provided by Southern District's Application, the PSC 2018 Annual Report (AR), Direct Testimony (Testimony), and Staff Requests for Information (Staff Requests). The rates set forth in Appendix A to this report are based upon this COSS and will produce revenues of at least \$3,681,312 from retail and wholesale water sales. The revenue requirement as calculated by Staff is less than the amount requested by Southern District.

A COSS is a tool used by a utility to ensure that the rates are tied to the cost of providing service to its customers. The COSS analyzes a utility's expenses and allocates these expenses according to the three classifications: Commodity, Demand, and Customer. The Commodity costs are those directly associated with the cost of water. Demand 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 varying usage.

The Allocation of Expenses sheet, which is attached as page 4 of Appendix B, shows the allocation of Operation and Maintenance expenses to the functional cost components. Commission Staff utilized information obtained through the Application, AR, Testimony, and Staff Requests to allocate these costs. Administrative and general expenses are allocated to the cost components based on the subtotal allocated percentages.

Based upon the various forms of collecting information, Staff has utilized the COSS as best as possible and developed rates for the classification of customers of retail, commercial, and wholesale. The Commission directed Staff to develop rates in the following manner: (1) maintain the current Flat Rate for residential customers; (2) maintain a Volumetric Rate for commercial customers; and (3) develop a cost-based rate for wholesale customers.

Staff has calculated a Flat Rate of \$55.17 for residential customers as outlined on the Allocation of Cost of Service to Wholesale and Flat Rate Residential sheet (Allocation Sheet), which is attached as page 5 of Appendix B. The commercial customers and the wholesale customers' revenues were removed from the expense to be allocated to the

Flat Rate residential customers. This amount of expense was divided by the approximate number of residential customers less the number of commercial customers as stated at the hearing in Case No. 2019-00041.⁴

The calculation of the wholesale customer's rate was developed utilizing wholesale allocation factors derived from information provided in the AR, and these factors were applied to the commodity and demand costs on the Allocation Sheet. The total allocated expense was then divided by the AR figure of sales to the wholesale customers, and the volumetric rate of \$4.46 per thousand gallons was the result of this calculation.

The commercial customer rate was based upon information developed through the COSS and Testimony provided at the hearing in Case No. 2019-00041, as well as preparing Southern District for the implementation of these rates for their entire system once the new meters have been installed. As shown on the Calculation of Water Rates Sheet (Calculation Sheet), which is attached as page 6 of Appendix B, Staff has set a Customer Charge Rate and a two-step volumetric rate. After reviewing all the available information, Staff determined that this rate structure would benefit Southern District and its customers as it transitions toward new meters in the near future.

Additionally, the above rates were adjusted to include a surcharge rate for the installation of the new meters for the entire system. At the time of Staff's review, there were discussions with Staff about the need for a surcharge in order to replace customer meters. During those discussions, Southern District representatives conveyed to Staff that the current flat rate being charged for residential service should be reduced by the amount of the surcharge. Staff is unable to recommend this reduction to the Commission

⁴ Case No. 2019-00041, July 16, 2019 H.V.T. at 2:51:06.

because it would result in Southern District losing approximately \$346,500 annually in base rate revenues, which would further contribute to Southern District's financial distress. Therefore, Staff finds that the recommended flat rate as set out in Appendix A be approved. The additional Meter Replacement Surcharge has been set at \$5.25 per customer per month for five years, or until such time that Southern District pays the total cost for the new meters, whichever comes first.

Staff recommends that the Commission approve these rates and rate structures now and order Southern District to move forward as quickly as possible to obtain and install the new meters as discussed in the instant case and Case No. 2019-00041. At the time the rates are approved, Staff finds that the Commission should order a refund of any overcollection that has occurred as a result of the interim flat rate and interim commercial rates being in excess of the rates Staff calculated based on the COSS. In its response to this Report, Southern District should comment and explain the manner in which they intend to refund customers for this overcollection. Staff also recommends that the Commission require Southern District to apply the Customer Charge and Volumetric Rates to each retail customer as soon as that customer's meter is installed. Staff further recommends that the Commission require Southern District to prepare and file a new alternative rate filing (ARF) once they have a full calendar year of usage data and expense data to develop rates going forward. By requiring Southern District to file this ARF, the Commission will be able to determine the extent that Southern District may have been over- or undercollecting from its customers.

PRO FORMA OPERATING STATEMENT

A statement of Southern District's Pro Forma Operating Expenses for the test year ended December 31, 2018, as determined by Staff, appears below.

Operating Expenses			
Operation and Maintenance Expenses			
Salaries and Wages - Employees	\$ 850,941	\$ (10,504) (A)	\$ 840,437
Salaries and Wages - Commissioners	24,000		24,000
Employee Pensions and Benefits	283,910	(111,889) (B)	172,021
Purchased Water	352,353	103,926 (C)	
		(216,824) (D)	239,455
Purchased Power for Pumping	394,952	(174,978) (D)	219,974
Chemicals	146,872	(69,794) (D)	77,078
Materials and Supplies	330,636	(26,538) (A)	
		(2,500) (E)	301,598
Contractual Services	95,668	(9,125) (E)	86,543
Transportation Expense	117,885		117,885
Insurance	139,078		139,078
Advertising Expense	2,109		2,109
Bad Debt Expense	22,171		22,171
Miscellaneous Expense	57,547	(54,756) (F)	2,791
	<u>2,818,122</u>	<u>(572,982)</u>	<u>2,245,140</u>
Total Operation and Maintenance Expenses			
Taxes Other Than Income	79,119	(870) (A)	78,249
Amortization	2,460		2,460
Depreciation	889,838	(10,855) (G)	
		(3,351) (H)	875,632
	<u>3,789,539</u>	<u>(588,058)</u>	<u>3,201,481</u>
Total Operating Expenses			

(A) Capitalization of Meter Installations. In its Application, Southern District reported that during the test-year labor and materials for 45 5/8-inch and one 2-inch meter installations were charged to operating expenses. Southern District requested to reduce operating expenses in the amount of \$38,782 in order to capitalize the installation of the customer meters. While Staff agrees with the treatment of these expenses, after a review of the calculation of the labor and materials, Staff disagrees with the total reduction of \$38,782 in Southern District's application. Staff recalculated the amount of the reduction to be \$37,912, and reduced operating expenses, with the breakdown shown in the table

below, utilizing the same ratio for labor and materials as requested in Southern District's Application.

Salaries and Wages - Employees	\$	10,504
Taxes Other Than Income		870
Materials and Supplies		<u>26,538</u>
Total Capitalized	\$	<u>37,912</u>

(B) Employee Pensions and Benefits. During the test year, Southern District's employees paid \$25 per pay period for single health insurance coverage and \$50 per pay period for family or dependent care coverage. Staff notes that in recent Orders, the Commission has made ratemaking adjustments to reduce the cost of employee benefit packages paid by some utilities when certain aspects of those benefits packages were found to be unreasonable based on a review of total salaries and fringe benefits. The Commission is placing greater emphasis on evaluating employees' total compensation packages, including both salary and benefit programs for market and geographic competitiveness, and to ensure the development of a fair, just, and reasonable rate. In this case, Staff has found that the structure of the health care benefits paid for by Southern District in the test period does not meet the criteria for market competitiveness and is therefore unreasonable. Factoring in for the preceding, Staff determined the net adjustment to Southern District's test-year employee pensions and benefits expense using its current monthly premiums and the national average employee contribution rate

for health insurance⁵ and dental insurance,⁶ which results in a decrease of \$111,889 as shown in the calculation below.

Type of Premium	Current Monthly Premium	Times: Average Employee Contribution Rate	Monthly Premium Adjustment	Pro Forma Monthly Premium
Single Health Insurance	\$ 3,030	21%	\$ (636)	\$ 2,394
Family Health Insurance	14,364	33%	(4,740)	9,624
Dental Insurance	666	60%	(400)	266
Vision Insurance	256			256
Life Insurance	174			174
Total Pro Forma Monthly Premium				12,714
Times: 12 Months				<u>12</u>
Total Annual Pro Forma Premium				152,568
Less: Test Year				<u>(264,457)</u>
Adjustment				<u><u>\$(111,889)</u></u>

(C) Wholesale Purchased Water. In its Application, Southern District requested to adjust its Wholesale Purchased Water by the wholesale rates now being charged by its suppliers. This resulted in an increase to Purchased Water Expense of \$103,926. Staff agrees that this adjustment is reasonable and therefore included it in Pro Forma operations.

⁵ Bureau of Labor Statistics, Healthcare Benefits, March 2018, Table 10, private industry workers. (<https://www.bls.gov/ncs/ebs/benefits/2018/ownership/private/table10a.pdf>).

⁶ Willis Benefits Benchmarking Survey, 2015. (https://www.willis.com/documents/publications/Services/Employee_Benefits/Willis_Survey_011216_R1.pdf).

(D) Expenses Attributable to Water Loss. Pursuant to 807 KAR 5:066, Section (6)3, Southern District’s water loss is limited to 15 percent for ratemaking purposes unless it can demonstrate that an alternative level is reasonable. Southern District reported test-year water loss at 62.52 percent,⁷ or 47.52 percent above the amount allowed and did not attempt to demonstrate that the amount of the excess water loss is reasonable. To comply with the regulation, Staff removed the expenses incurred during the test year to purchase, pump, and treat the lost water that was in excess of the allowable amount. Staff’s calculation is shown below.

	Test Year	Times: Excess Water Loss Percentage	Decrease
Purchased Water	\$ 456,279	-47.52%	\$(216,824)
Purchased Power	368,220	-47.52%	(174,978)
Chemicals	146,872	-47.52%	(69,794)

(E) Attorney’s Fees. During the test year, Southern District expensed \$11,625 for attorney’s fees paid to Tyler Green, Southern District’s attorney. Southern District expensed \$9,125 of this amount in Contractual Services on the General Ledger, and the additional \$2,500 was expensed as Materials and Supplies. Upon its review, Staff determined that the invoices for these fees did not provide details for the services provided. In addition, the minutes of Southern District’s board meetings did not state whether their attorney had been present. Thus, there was no documentation to support that legal services had actually been provided. Staff removed the cost of the attorney’s

⁷ Annual Report at 58.

fees related to Tyler Green from pro forma operations, as the expense was not proven to be reasonable or prudent.

(F) Miscellaneous Expenses. In its 2018 Annual Report, Southern District reported \$57,547 in Miscellaneous Expenses. Staff removed \$54,756 in Miscellaneous Expenses from Pro Forma Operations as explained below.

Staff reviewed the reasonableness of the Miscellaneous Expenses reported on Southern District's General Ledger. It was determined by Staff that \$33,193 of these expenses categorized as Miscellaneous Expenses were questionable and were not necessary for the provision of water service to Southern District's customers. In addition, the General Ledger revealed that \$14,166 was charged to Southern District for bank charges in the form of late charges and overdraft fees and an additional \$10 for credit card late fees that were categorized as Miscellaneous Expenses. Third, an additional \$5,719 was expensed by Southern in this category for what it referred to as Health Care Reimbursements. Finally, there was an additional \$1,668 of Kentucky Infrastructure Authority (KIA) Service Fees that were reported as a Miscellaneous Expense, which has already been included in the calculation of Southern District's total debt service as explained on page 14 of this Report.

(G) Depreciation Related to Transfer of Assets. In the test year, Southern District recorded depreciation on water assets that are to be transferred to Prestonsburg City Utilities Commission (PCUC) as approved in Case No. 2017-00044.⁸ As of the date

⁸ Case No. 2017-00044, *Electronic Joint Application of Southern Water and Sewer District; Prestonsburg City's Utility Commission; and the City of Prestonsburg for an Order Approving the Transfer of Ownership of the Wastewater System and Certain Portions of the Water System of Southern Water and Sewer District* (Ky. PSC May 2, 2017).

of this report, the water assets have not been transferred to PCUC. Until the transfer has occurred, Southern District and PCUC have mutually signed and agreed to an Operating and Maintenance Agreement (Agreement) that had an effective date of July 1, 2017. Pursuant to the Agreement, PCUC is principally responsible for maintaining the portion of Southern District's system that is to be transferred to PCUC. Additionally, PCUC will collect the water service revenues for the customers' meters that are being maintained by PCUC. Even though Southern District has not yet relinquished control of the assets to PCUC, pursuant to the Agreement, Southern District is neither collecting the revenue for these customers nor is it maintaining the assets in question, and therefore the depreciation for these assets should not be included in expenses for ratemaking purposes. Staff has removed from pro forma expenses the \$10,855 of Depreciation recorded in the test year for these assets that had an original cost of \$542,732.⁹

(H) Depreciation Expense. In its Application, Southern District requested to increase its Depreciation Expense by \$4,380 based on its calculation of the midpoint of the National Association of Regulatory Utility Commissioners (NARUC) depreciable lives prescribed in the 1979 publication titled "*Depreciation Practices for Small Utilities*." Southern District also relied upon the asset lives approved specifically for Southern District in Case No. 2012-00309.¹⁰ Staff recalculated Southern District's depreciable lives utilizing the midpoint of the NARUC ranges for all of its assets with the exception of two items explained in the following paragraphs. The calculation is shown in Appendix C of

⁹ Case No. 2017-00044, Response to Commission Staff's Second Request for Information (Apr. 21, 2017) at 2.

¹⁰ 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* (Ky. PSC July 12, 2013) at Appendix B.

this Report. As a result of these calculations, Staff reduced Pro Forma Depreciation Expense by \$3,351.

First, Transmission and Distribution Mains have been maintained at a 50-year life cycle, except for those transmission and distribution assets that deviate from a 50-year life. After discussions with Southern District, Staff believes that the system has experienced significantly accelerated degradation over the years due to the type of pipe material that encompasses a majority of Southern District's system. In its application in Case No. 2012-00309, Southern District requested a life of 50 years, the short end of the NARUC range, for its Transmission and Distribution mains.¹¹ In support of this request, Southern District stated that approximately 65 percent of its mains are constructed of asbestos cement and were installed in the 1960s and 1970s. Undisturbed, mains of this material are quite durable; however, as Southern District further states, many of its mains are located very close and sometimes beneath the roadways, and vibration from heavy equipment traveling along these roadways can by itself cause these mains to be weakened from soil shifting.¹² In this instance, the Commission ordered that Southern District's reassignment of its service lives for ratemaking purposes was reasonable and should be authorized, which included the 50-year life proposed by Southern District.¹³ Staff believes that the treatment of Southern District's Transmission and Distribution

¹¹ 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* (Aug 8, 2012), at 19.

¹² *Id.*, at 19 and 20.

¹³ 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* (Ky. PSC Jul 12, 2013), at 12.

mains in the prior case was reasonable and appropriate and has maintained the same useful life as previously ordered by the Commission.

Second, Southern District reported multiple line items for tank repairs in its 2018 depreciation schedule. Southern District assigned a useful life between 45 and 50 years for these repairs. Tank repairs are normally assigned as a regulatory asset and amortized over a certain number of years rather than placed on the depreciation schedule. Southern District has already assigned a useful life to these tank repairs and has already included them on its schedule rather than amortize the expense as would be proper practice. Because the results of depreciating this line item would be the same as if they were amortized, Staff reassigned a useful life of 15 years for tank repairs, which Staff believes to be a more reasonable life, and maintained them on the depreciation schedule.

OVERALL REVENUE REQUIREMENT AND REQUIRED REVENUE INCREASE

The Commission has historically applied a 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) recovery of depreciation expense, a non-cash item, to provide working capital;¹⁴ (3) the average annual principal and interest payments on all long-term debts, and (4) working capital that is in addition to depreciation expense.

¹⁴ 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 for renewing and replacing assets. *See Public Serv. Comm'n of Kentucky v. Dewitt Water Dist.*, 720 S.W.2d 725, 728 (Ky. 1986). Although a water district's lenders require that a small portion of the depreciation funds be deposited annually into a debt reserve/depreciation fund until the account's balance accumulates to a required threshold, neither the Commission nor the Court requires that revenues collected for depreciation be accounted for separately from the 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 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* (Ky. PSC Dec. 21, 2012).

Southern District provided a billing analysis with its Application. Through Staff Requests and Testimony provided at both the hearings held in the instant case and in Case No. 2019-00041, it was determined that the billing analysis was utilizing information that Southern District felt was untrustworthy based on the 750 meters that were zero-read usage for the entire year. Additionally, due to the age of the meters and the failure to perform any meter testing, Southern District stated that it was wary of the consumption reported for customers as sample meter testing results were underreporting usage of as much as 20 percent. As a result, while Staff utilized the DSC method to calculate the Overall Revenue Requirement, Staff did not calculate a required revenue increase over Southern District's current rates. Instead, Staff performed the COSS and developed new rates as outlined on pages 3 through 5 above. However, the billing analysis was used to assist Staff in developing the commercial customer's rate. Staff recommends that the Commission require Southern District to make sure that once the new meters are installed that the billing analysis from its new billing software is utilized at the Southern District's monthly Board of Commissioners meeting to review the revenue being collected each month. As discussed above, Staff recommends that the Commission require Southern District to file a new ARF application once a full calendar year of data has been collected. A comparison of the required revenue increase calculated by Southern District and the revenue required from rates as calculated by Staff appears below.

	Southern District	Staff	
Pro Forma Operating Expenses	\$3,382,334	\$ 3,201,481	
Plus: Average Annual Principal and Interest Payments	476,489	476,489	(1)
Additional Working Capital	95,298	95,298	(2)
Overall Revenue Requirement	3,954,121	3,773,268	
Less: Other Operating Revenue	(62,246)	(62,246)	
Interest Income	(4,001)	(4,001)	
Nonutility Income	(26,091)	(26,091)	
Revenue Required from Rates	3,861,783	<u>\$ 3,680,930</u>	
Less: Pro Forma Present Rate Service Revenues	<u>(2,919,194)</u>		
Required Revenue Increase	<u>\$ 942,589</u>		
Percentage Increase	<u>32.29%</u>		

(1) Average Annual Principal and Interest Payments. At the time of filing, Southern District had four outstanding bonds payable to the United States Department of Agriculture Rural Development (RD), two notes payable to KIA, one loan payable to First Guaranty Bank, and two loans payable to Citizens Bank.

In its Application, Southern District requested recovery of the average annual principal and interest payments on these loans based on a five-year average of the annual principal and interest payments for the years 2019 through 2023. Staff agrees with the calculation of Southern District's debt service schedule as stated in the Application and has included it in the calculation of the Overall Revenue Requirement.

(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, Southern District requested recovery

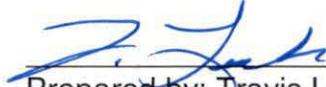
of an allowance for working capital that is equal to 120 percent of its average annual debt payments for its four bonds payable to RD, two notes payable to KIA, one loan payable to First Guaranty Bank, and two loans payable to Citizens Bank. Staff concurs with Southern District's calculation of additional working capital and has included it in the calculation of its Overall Revenue Requirement.

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Signatures



Prepared by: Ariel Miller
Water and Sewer Branch
Division of Financial Analysis



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APPENDIX A

APPENDIX TO A STAFF REPORT OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2019-00131 DATED **AUG 15 2019**

Staff Calculated Monthly Water Rates

Residential Customers Only

Before New Meter Installation

Flat Rate \$ 55.17 per month

After New Meter Installation*

Customer Charge \$ 10.61 Monthly Minimum Bill

First 2,000 Gallons 15.54 per 1,000 Gallons

Over 2,000 Gallons 8.69 per 1,000 Gallons

Commercial Customers Only

Customer Charge \$ 10.61 Monthly Minimum Bill

First 2,000 Gallons 15.54 per 1,000 Gallons

Over 2,000 Gallons 8.69 per 1,000 Gallons

Wholesale Customers

City of Hindman \$ 4.46 per 1,000 Gallons

Knott County Water District 4.46 per 1,000 Gallons

City of Wheelwright 4.46 per 1,000 Gallons

Meter Replacement Surcharge

Applies to all customers

Meter Replacement Surcharge** \$5.25 per month

**** As each residential customer meter is installed at the premises, then each customer account will move from the residential flat rate stated above to the customer charge and volumetric rate stated above.***

***** This Meter Replacement Surcharge shall remain in effect for five years from the date of a Final Order by the Public Service Commission in Case No. 2019-00131 for all customers (residential or commercial customers) or until the total cost of the meter replacement has been collected.***

APPENDIX B

APPENDIX TO A STAFF REPORT OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2019-00131 DATED **AUG 15 2019**

SEVEN PAGES TO FOLLOW

Cost-of-Service Study

Allocation of Plant Value				
	Total	Commodity	Demand	Customer
Organization	\$2,450			\$2,450
Franchises	1,250			1,250
Land & Land Rights	198,606		\$198,606	
Structures & Improvements	8,115,610		8,115,610	
Collecting and Imounding Reserv.	11,996		11,996	
Lakes, Rivers, and Other Intakes	147,466		147,466	
Wells and Springs	3,304		3,304	
Power Generation Equipment	4,373		4,373	
Pumping Equipment	2,549,134		2,549,134	
Water Treatment Equipment	926,987		926,987	
Dist Reservoirs & Standpipes	229,888		229,888	
Transmission & Distribution Mains	23,304,403		23,304,403	
Services	594,824			594,824
Meters & Meter Installation	719,193			719,193
Hydrants	256,440			256,440
Subtotal	\$37,065,924		\$35,491,767	\$1,570,457
Allocation Percentages	100%		95.8%	4.2%
Office Furniture & Equipment	78,650		75,347	3,303
Transportation Equipment	547,676		524,674	23,002
Tools, Shop and Garage Equip.	14,874			
Labaratory Equipment	15,997			
Power Operated Equipment	103,841		99,480	4,361
Communications Equipment	4,687		4,490	197
Misc Equipment	7,292			
Other Tangible Plant	1,111			
Subtotal	\$774,128		\$741,615	\$32,513
Total	\$37,840,052		\$36,233,382	\$1,602,970
Allocation Percentages	100%		95.8%	4.2%

Source: 2018 PSC Annual Report

Allocation of Depreciation				
	Total	Commodity	Demand	Customer
Structures & Improvements	\$4,519,030		\$4,519,030	
Collecting and Imounding Reserv	10,677		10,677	
Lakes, Rivers, and Other Intakes	130,849		130,849	
Wells and Springs	3,304		3,304	
Power Generation Equipment	2,809		2,809	
Pumping Equipment	2,050,123		2,050,123	
Water Treatment Equipment	480,134		480,134	
Dist Reservoirs & Standpipes	192,578		192,578	
Transmission & Distribution Mair	12,702,506		12,702,506	
Services	438,506			438,506
Meters & Meter Installation	537,911			537,911
Hydrants	\$156,644			\$156,644
Subtotal	\$21,225,071		\$20,092,010	\$1,133,061
Allocation Percentages			94.66%	5.34%
Office Furniture & Equipment	\$44,015		\$41,665	\$2,350
Transportation Equipment	383,147		362,687	20,460
Tools, Shop and Garage Equip.	15,997		15,143	854
Power Operated Equipment	\$98,577		93,313	5,264
Subtotal	541,736		512,807	28,929
Total	\$21,766,807		\$93,313	\$5,264
Allocation Percentages			94.66%	5.34%

Source: 2018 PSC Annual Report

Allocation of Operation & Maintenance Expense				
	Total	Commodity	Demand	Customer
Salaries & Wages	\$840,437		\$586,737	\$253,700
Pensions & Benefits	172,021		120,515	51,506
Purchased Water	239,455	239,455		
Purchased Power	219,974	193,242		26,732
Chemicals	77,078	77,078		
Materials & Supplies	301,598		168,736	135,362
Contractual Serv. - Water Testing	24,873			24,873
Contractual Serv. - other	3,395			3,395
Contractual Serv - Accounting	49,889			49,889
Contractual Services - Professional Fees	8,389			8,389
Transportation	117,885		80,347	37,538
Insurance Commissioners Bond	3,741			3,741
Insurance - Workers Comp	14,850		9,352	5,498
Advertising	2,109			2,109
Bad Debt Expense	22,171			22,171
Misc Expense	2,791			2,791
Subtotal	\$2,100,656	509,775	965,687	627,694
Less Commodity	(\$509,775)			
Total	\$1,590,881		\$965,687	\$627,694
Allocation Percentages	1		0.61	0.39
Salaries Officers	\$24,000		\$14,640	\$9,360
Insurance - Property	120,484		73,495	46,989
Amortization Expense	2,460		1,501	959
Taxes other than Income	78,249		47,732	30,517
Subtotal	225,193		137,368	87,825
Operating Expenses	2,325,849	\$ 509,775	1,103,055	715,519

Allocation of Cost of Service To Wholesale Customer and Flat Rate Residential				
	Total	Commodity	Demand	Customer
Operation & Maintenance	2,325,849	\$ 509,775	1,103,055	715,519
Debt & Working Capital*	571,787		547,772	24,015
Depreciation**	875,632		828,873	46,759
General Water Service Cost	\$3,773,268	\$509,775	2,479,700	786,293
Less: Interst Income	(4,001)			(4,001)
Other Operating Revenues	(62,246)			(62,246)
Nonutility Income	(26,091)			(26,091)
Revenue Required from Rates	\$3,680,930	\$509,775	\$2,479,700	\$693,955
Allocated to Wholesale	\$73,123	\$33,696	\$39,427	0
Amount Allocated to Retail	\$3,607,807	\$476,079	\$2,440,273	\$693,955

*The Debt & Working Capital has been allocated based upon the allocation percentage from the Plant Value

**Depreciation has been allocated based upon the allocation percentage from the Depreciation Sheet.

Wholesale Rate Calculation	\$73,123	16,403,000	\$4.46
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Wholesale Allocation Factors		Factor	
Revenue Factor			
Sales for Resale Revenue		\$44,972	0.01590
Total Water Sales Revenue		\$2,835,676	
Revenue Required from Rates (Demand)	\$2,479,700	* 0.01590	\$39,427

Water Volume Sales Factor		Factor	
Sales for Resale		16,403,000	0.0661
Total Water Sales		248,187,000	
Revenue Required from Rates (Commodity)	\$509,775	* 0.0661	\$33,696

FLAT RATE RESIDENTIAL***	\$3,466,416 =	662.04	55.17
NUMBER OF CUSTOMERS	5,236 MONTHS	12	

***Required Revenue from Residential flat rate customers has been reduced by the Revenue from the Wholesale Customers and the Commercial Customers Revenues

Calculation of Water Rates			
	Total	First 2,000	Over 2,000
Actual Water Sales:			
Thousand Gallons	255,503,000	101,493,000	154,010,000
Percent	100%	39.7%	60.3%
Weighted Sales for Demand:			
Thousand Gallons	356,996,000	202,986,000	154,010,000
Percent	100%	56.9%	43.1%
Allocation of Volumetric Costs:			
Commodity	476,079	\$189,003	\$287,076
Demand	2,440,273	1,388,515	1,051,758
Total	\$2,916,352	\$1,577,518	\$1,338,834
Allocation of Customer Costs:			
Customer	\$693,955	10.61	
Number of Bills	65,426		
Proposed Rates		\$15.54	\$8.69

Verification of Revenue of New Rates				
	Bills	Gallons	Rate	Revenue
Residential Customers:				
Flat Rate*	62832		55.17	\$3,466,441
Surcharge			5.25	329,868
Commercial Customers:				
Customer Charge	1,932		\$10.61	\$20,499
Volumetric Rate				
First 2,000		4,186,000	15.54	\$65,050
Over 2,000		6,426,000	8.69	55,842
Surcharge			\$5.25	\$10,143
WHOLESALE RATE				
		16,403,000	\$4.46	\$73,157
Total Revenue from Rates				\$4,021,000
Interest Income				4,001
Other Operating Revenues				62,246
Nonutility Income				26,091
Total Operating Revenue				\$ 4,113,338

Comparison of Rates				
Residential Customers				
Gallon Usage	Current Rates	Proposed Rates	Increase	Percentage
0	\$25.20	\$55.17	\$29.97	118.9%
1,000	25.20	55.17	29.97	118.9%
2,000	25.20	55.17	29.97	118.9%
3,000	33.90	55.17	21.27	62.7%
4,000	42.60	55.17	12.57	29.5%
5,000	51.30	55.17	3.87	7.5%
6,000	60.00	55.17	-4.83	-8.1%
7,000	68.70	55.17	-13.53	-19.7%
8,000	77.40	55.17	-22.23	-28.7%
9,000	86.10	55.17	-30.93	-35.9%
10,000	94.80	55.17	-39.63	-41.8%
15,000	138.30	55.17	-83.13	-60.1%
20,000	181.80	55.17	-126.63	-69.7%
25,000	225.30	55.17	-170.13	-75.5%
30,000	268.80	55.17	-213.63	-79.5%
35,000	312.30	55.17	-257.13	-82.3%
40,000	355.80	55.17	-300.63	-84.5%
50,000	442.80	55.17	-387.63	-87.5%
75,000	660.30	55.17	-605.13	-91.6%
100,000	877.80	55.17	-822.63	-93.7%
250,000	2,182.80	55.17	-2,127.63	-97.5%
500,000	4,357.80	55.17	-4,302.63	-98.7%
1,000,000	8,707.80	55.17	-8,652.63	-99.4%
2,000,000	17,407.80	55.17	-17,352.63	-99.7%

Current Rates		Proposed Rates	
		FLAT RATE	\$55.17
First 2,000 gallons	25.20		
Over 2,000 gallons	8.70		

Effect on Customer Average Bill - 4,000 Gallons Usage			
Current Rates	Proposed Rates	Amount Increase	% Increase
\$42.60	\$55.17	\$12.57	29.5%

Comparison of Rates				
Commercial Customers				
Gallon Usage	Current Rates	Proposed Rates	Increase	Percentage
0	\$25.20	\$10.61	-\$14.59	-57.90%
1,000	25.20	26.15	0.95	3.77%
2,000	25.20	41.69	16.49	65.44%
3,000	33.90	50.38	16.48	48.61%
4,000	42.60	59.07	16.47	38.66%
5,000	51.30	67.76	16.46	32.09%
6,000	60.00	76.45	16.45	27.42%
7,000	68.70	85.14	16.44	23.93%
8,000	77.40	93.83	16.43	21.23%
9,000	86.10	102.52	16.42	19.07%
10,000	94.80	111.21	16.41	17.31%
15,000	138.30	154.66	16.36	11.83%
20,000	181.80	198.11	16.31	8.97%
25,000	225.30	241.56	16.26	7.22%
30,000	268.80	285.01	16.21	6.03%
35,000	312.30	328.46	16.16	5.17%
40,000	355.80	371.91	16.11	4.53%
50,000	442.80	458.81	16.01	3.62%
75,000	660.30	676.06	15.76	2.39%
100,000	877.80	893.31	15.51	1.77%
250,000	2,182.80	2,196.81	14.01	0.64%
500,000	4,357.80	4,369.31	11.51	0.26%
1,000,000	8,707.80	8,714.31	6.51	0.07%
2,000,000	17,407.80	17,404.31	-3.49	-0.02%

Current Rates		Proposed Rates	
		Customer Charge	\$10.61
First 2,000 gallons	\$25.20	First 2,000 gallons	15.54
Over 2,000 gallons	8.70	Over 2,000 gallons	8.69

Effect on Customer Average Bill - 4,000 Gallons Usage			
Current Rates	Proposed Rates	Amount Increase	% Increase
\$42.60	\$59.07	\$16.47	38.66%

APPENDIX C

APPENDIX TO A STAFF REPORT OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2019-00131 DATED **AUG 15 2019**

SIX PAGES TO FOLLOW

Asset Number	Asset	Original Cost	Southern District Life	Current Depreciation	NARUC Life	Adjusted Depreciation	Depreciation Adjustment
304-2	Structures						
10	Structures	\$ 364,109	45	\$ 8,091	37.5	\$ 9,710	\$ 1,618
128	1994 Plant Expansion	2,893,361	45	64,297	37.5	77,156	12,859
155	Tank Repairs	995	45	22.11	15	66	44
156	Telemetry Systems	4,380	45	97.33	10	438	341
157	Tank Repairs	36,500	40	913	15	2,433	1,521
171	1999 CIP Tanks	778,722	40	19,468	45	17,305	(2,163)
181	Telemetry 2000 CIP	26,403	45	587	10	2,640	2,054
192	2001 CIP - Telemetry	37,350	45	830	10	3,735	2,905
201	Spurlock Tank	166,000	40	4,150	45	3,689	(461)
235	Office Building	167,940	50	3,359	37.5	4,478	1,120
244	2007 CIP Telemetry	10,450	45	232	10	1,045	813
273	Security System	5,012	50	100	10	501	401
274	Roof	13,500	50	270	20	675	405
275	Price Tank	413,530	50	8,271	45	9,190	919
294	John Hall Brank Tank Repair	47,000	45	1,044	15	3,133	2,089
306	2013 Building Improvements	10,500	50	210	37.5	280	70
358	2017 Melvin Tank Repairs	16,246	50	325	15	1,083	758
363	Ligon Tank	343,599	50	5,686	45	7,636	1,950
Total				117,952		145,194	27,242
304-5	Furniture						
365	Phone System	2,095	7	293	10	210	(84)
Total				293		210	(84)
306-2	Lake						
6	Lake, River	147,466	50	2,949	62.5	2,359	(590)
Total				2,949		2,359	(590)

Asset Number	Asset	Original Cost	Southern District Life	Current Depreciation	NARUC Life	Adjusted Depreciation	Depreciation Adjustment
320-3	Water Treatment Equipment						
172	1999 CIP Water Treatment	97,410	35	2,783	27.5	3,542	759
191	2001 CIP - Equipment	230,115	35	6,575	27.5	8,368	1,793
224	Water Treatment Plant	132,826	35	3,795	27.5	4,830	1,035
243	2007 CIP Treatment Plant	25,500	35	729	27.5	927	199
328	Water Treatment Plant	325,567	35	9,302	27.5	11,839	2,537
Total				23,183		29,506	6,323
330-4	Reservoirs						
17	Dist Reservoirs	178,942	50	3,579	45	3,976	398
Total				3,579		3,976	398
331-4	Transmission and Distribution Mains						
276	Price Mains	58,307	40	1,457.68	50	1,166	(292)
303	Prior FEMA Lines	507,532	30	16,917.73	50	10,151	(6,767)
304	2013 Various Lines	40,943	30	1,364.77	50	819	(546)
310	2014 CIP Mcdowell Curve Line	391,550	30	13,051.67	50	7,831	(5,221)
331	Mcdowell Curve	2,661	30	88.70	50	53	(35)
329	Minnie to Harold Lines	591,150	30	19,705.00	50	11,823	(7,882)
330	Simpson Branch Lines	19,950	30	665.00	50	399	(266)
332	Melvin Bridge Lines	59,750	30	1,991.67	50	1,195	(797)
319	Lines	2,155	30	71.83	50	43	(29)
323	Lines	7,597	30	253.23	50	152	(101)
333	Harold Leak Lines	3,735	30	124.50	50	75	(50)
327	Various Lines	19,950	30	665.00	50	399	(266)
361	Lines (Mcdowell Curve)	3,900	50	74	50	78	4
364	Lines (Wolfpen)	15,200	50	225	50	304	79
362	Lines (Hi Hat)	345,272	50	1,835	50	6,905	5,070
Total				58,491		41,393	(17,098)

Asset Number	Asset	Original Cost	Southern District Life	Current Depreciation	NARUC Life	Adjusted Depreciation	Depreciation Adjustment
333-4	Services						
19	Services	64,765	50	1,295	40	1,619	324
24	Services	21,136	50	423	40	528	106
25	Services	38,887	50	778	40	972	194
193	2001 CIP - Service Labor	339,464	50	<u>6,789</u>	40	<u>8,487</u>	<u>1,697</u>
Total				9,285		11,606	2,321
334-4	Meters						
66	Meter Tap on Fees	4,080	40	34	40	-	(34)
65	Meters	7,276	40	180	40	-	(180)
95	Gate Valve	625	50	13	40	16	3
343	Turbidimeter	2,426	40	<u>60</u>	40	<u>61</u>	<u>1</u>
Total				287		76	(210)
335-4	Hydrants						
31	Hydrants	736	50	15	40	18	4
54	Hydrants	1,563	50	31	40	39	8
67	Hydrants	224,871	50	4,497	40	5,622	1,124
76	Hydrants	17,824	50	356	40	446	89
179	Hydrants 2000 CIP	7,800	50	156	40	195	39
277	Hydrants	3,646	50	<u>73</u>	40	<u>91</u>	<u>18</u>
Total				5,129		6,411	1,282
340-5	Office Equipment						
286	Fax Machine	1,013	7	109	5	-	(109)
307	Software Solutions	6,186	5	1,166	5	-	(1,166)
357	Computers and Software	74,343	7	<u>6,763</u>	5	<u>14,869</u>	<u>8,106</u>
Total				8,038		14,869	6,831

Asset Number	Asset	Original Cost	Southern District Life	Current Depreciation	NARUC Life	Adjusted Depreciation	Depreciation Adjustment
341-5	Vehicles						
166	1999 MAIS - Line Extensions	29,553	20	1,478	50	591	(887)
283	Trailer	2,000	7	8	7	-	(8)
284	Red Toyota	2,500	7	31	7	-	(31)
285	Trailer	467	7	12	7	-	(12)
287	Trailer	1,186	7	138	7	-	(138)
305	Toyota Truck	11,500	5	1,033	7	-	(1,033)
308	2013 Truck Repairs	5,019	5	701	7	-	(701)
298	2011 Ford Ranger	10,666	5	1,560	7	-	(1,560)
299	2011 Ford Ranger	10,666	5	1,560	7	-	(1,560)
300	2011 Ford Ranger	10,666	5	1,560	7	-	(1,560)
301	2013 Dodge Ram 3500	38,075	5	5,570	7	-	(5,570)
309	2014 Chevy Truck	35,018	5	7,004	7	5,003	(2,001)
312	Motor (Grassy Auto Parts)	4,200	5	840	7	600	(240)
322	Truck Repairs	2,110	5	422	7	301	(121)
313	Trailer	3,950	5	790	7	564	(226)
315	Trailer	1,695	5	339	7	242	(97)
337	2016 Chewy Crew (Dean)	36,618	5	7,324	7	5,231	(2,092)
338	2016 Chevy 2500 (Field)	28,017	5	5,803	7	4,002	(1,801)
339	2016 Chevy 3500 (Dump)	45,690	5	9,138	7	6,527	(2,611)
341	Tiler (PJ Trailer)	791	5	158	7	113	(45)
350	2018 Chevy Silverado 1500	25,196	5	5,039	7	3,599	(1,440)
351	2018 Chevy Silverado 1500	25,196	5	5,039	7	3,599	(1,440)
352	2018 Chevy Silverado 1500	25,196	5	5,039	7	3,599	(1,440)
353	2018 Chevy Silverado 1500	25,196	5	5,039	7	3,599	(1,440)
354	2018 Chevy Silverado 1500	25,196	5	5,039	7	3,599	(1,440)
Total				70,664		41,172	(29,492)

Asset Number	Asset	Original Cost	Southern District Life	Current Depreciation	NARUC Life	Adjusted Depreciation	Depreciation Adjustment
345-5	Power Equipment						
297	Equipment	1,257	7	180	12.5	101	(79)
314	Generator	3,750	5	750	12.5	300	(450)
311	Excavator	41,355	7	5,908	12.5	3,308	(2,599)
340	Lift	3,345	5	669	12.5	268	(401)
342	Bobcat Attachment	1,789	5	358	12.5	143	(215)
346	Mini Final Drives	2,475	5	495	12.5	198	(297)
347	Dozer Track	1,470	5	294	12.5	118	(176)
348	Final Mini Drives	2,775	5	555	12.5	222	(333)
349	Rubber Track for Dozer	2,387	5	477	12.5	191	(286)
Total				9,686		4,848	(4,837)
347-5	Equipment						
367	Equipment	1,400	7	149	7	200	51
Total				149		200	51
311	Pump Equipment						
30	Pumping Equipment	61,893	50	1,238	20	3,095	1,857
31	Pumping Equipment	3,261	50	65	20	163	98
32	Pumping Equipment	1,079	50	22	20	54	32
34	Pumping Equipment	1,960	50	39	20	98	59
33	Pumping Equipment	543	50	11	20	27	16
35	Pumping Equipment	572	50	11	20	29	17
36	Pumping Equipment	620	50	12	20	31	19
55	Pumps	5,255	50	105	20	263	158
56	Pumps	1,305	50	26	20	65	39
86	Pump	2,986	50	60	20	149	90
108	Pump	4,513	50	90	20	226	135
117	Pump Motor	1,780	50	36	20	89	53
116	Pump Mink Branch	1,848	50	37	20	92	55

Asset Number	Asset	Original Cost	Southern District Life	Current Depreciation	NARUC Life	Adjusted Depreciation	Depreciation Adjustment
119	Pump Repair	688	50	14	20	34	21
114	Pumps	4,520	50	90	20	226	136
122	Pump	1,065	50	21	20	53	32
136	Pumps & Motors	2,502	50	50	20	125	75
137	Pumps & Motors	2,325	50	47	20	116	70
Total				1,974		4,936	2,961
333	Services						
49	Services	681	50	14	40	17	3
50	Services	37,594	50	752	40	940	188
51	Services	2,196	50	44	40	55	11
52	Services	75,399	50	1,508	40	1,885	377
53	Services	759	50	15	40	19	4
54	Services	3,921	50	78	40	98	20
Total				2,411		3,014	603
	New Meter Installations	37,912		-	40	948	948
Total				-		948	948
Grand Totals				\$ 314,070		\$ 310,718	\$ (3,351)

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