

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF CALDWELL COUNTY)
WATER DISTRICT FOR RATE ADJUSTMENT) CASE NO. 2016-00054
PURSUANT TO 807 KAR 5:076)

NOTICE OF FILING OF COMMISSION STAFF REPORT

Notice is hereby given that, in accordance with the Commission's Order of February 18, 2016, 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 February 18, 2016 Order, Caldwell County Water District is required to file written comments regarding the findings of Commission Staff no later than 14 days from the date of this report.



Aaron D. Greenwell
Acting Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATED MAY 04 2016

cc: Parties of Record

STAFF REPORT
ON
CALDWELL COUNTY WATER DISTRICT
CASE NO. 2016-00054

Caldwell County Water District ("Caldwell District") is a water district organized pursuant to KRS Chapter 74 that owns and operates a water distribution system through which it provides retail water service to approximately 2,032 customers in Caldwell County, Kentucky.¹ On February 3, 2016, the Commission accepted for filing Caldwell District's application ("Application") to increase its water service rates pursuant to 807 KAR 5:076. To ensure the orderly review of the Application, the Commission established a procedural schedule by Order dated February 18, 2016.

Caldwell District based its requested rates on a historic 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 its Application, the calendar year ending December 31, 2014, as required by 807 KAR 5:076, Section 9. In the Application, Caldwell District stated that the requested rates would increase the monthly bill of a typical residential water customer² from \$54.08 to \$72.42, an \$18.34 increase, or 33.9 percent, and that the requested rates would generate \$374,168 in additional annual water sales revenues, a 33.9 percent increase. Caldwell District presented financial exhibits in the

¹ *Annual Report of Caldwell County Water District to the Public Service Commission for the Calendar Year Ended December 31, 2014* at 12 and 53.

² A typical residential customer purchases 4,000 gallons of water per month through a 5/8-inch x 3/4-inch meter.

Application that show how Caldwell District calculated the amount of the requested revenue increase. The exhibits are summarized below in condensed form.

Operating Expenses	\$1,214,049
Plus: Average Annual Debt and Principal Payments	249,893
Additional Working Capital	<u>48,270</u>
Overall Revenue Requirement	1,512,212
Less: Other Operating Income	(32,171)
Interest Income	<u>(1,988)</u>
Revenue Required from Rates	1,478,053
Less: Pro Forma Present Rate Revenue	<u>(1,103,885)</u>
Required Revenue Increase	<u>\$ 374,168</u>
Increase Percentage	<u>33.90%</u>

To determine the reasonableness of the water service rates requested by Caldwell District, Staff performed a limited financial review of Caldwell District's test-year operations. The scope 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. Staff did not necessarily pursue or address discrepancies that it deemed insignificant and immaterial.

Staff's findings are summarized in this report. Jack Scott Lawless reviewed the calculation of Caldwell District's Overall Revenue Requirement. Eddie Beavers reviewed Caldwell District's reported revenues and rate design.

Summary of Findings

1. Overall Revenue Requirement and Required Revenue Increase. By applying the Debt Service Coverage ("DSC") method, as generally accepted by the

Commission, Staff found that the Caldwell District's Overall Revenue Requirement is \$1,350,682 and that a \$209,058, or 18.88 percent, revenue increase to pro forma present-rate revenues is necessary to generate the Overall Revenue Requirement.

2. Water Service Rates. Caldwell District proposes an approximate 33.9 percent across-the-board increase to current rates. Caldwell District has not performed a cost-of-service study. 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. Staff finds that an across-the-board increase is the appropriate means to allocate the increased revenue requirement.

Caldwell District noted in the Application that it closed its bulk loading station during the test year and is no longer providing this service; this rate should be removed from its tariff.

The rates set forth in the Attachment to this report are based upon the revenue requirement as calculated by Staff and will produce sufficient revenues from water sales to recover the \$1,316,523 determined by Staff, an approximate 18.88 percent increase. These rates will increase a typical residential customer's monthly bill from \$54.08 to \$64.29, an increase of \$10.21, or 18.88 percent.

3. Depreciable Lives. In this proceeding, Caldwell District requests to adjust for ratemaking purposes the depreciable lives that are currently assigned to some of the asset groups shown in its plant ledger. Staff's review and findings of the depreciable lives used by Caldwell District during the test year and the adjustments it proposes thereto are summarized in this report beginning on page 15 at Ref. Item (l). Any depreciable lives approved by the Commission in this proceeding for ratemaking

purposes should also be used by Caldwell District for all future accounting and reporting purposes. No adjustment to accumulated depreciation or retained earnings should be made to account for the effect of this change in accounting estimate.

Pro Forma Operating Statements

Caldwell District's Pro Forma Operating Statement for the test-year ended December 31, 2014, as determined by Staff, appears below:

	<u>Test Year</u>	<u>Adjustments</u>	<u>(Ref.)</u>	<u>Pro Forma</u>
Operating Revenues				
Water Sales Revenue	\$ 1,081,053	\$ 26,412	(A)	\$ 1,107,465
Other Operating Revenue	32,171			32,171
Total Operating Revenues	1,113,224	26,412		1,139,636
Operating Expenses				
Operation and Maintenance				
Salaries and Wages - Employees	213,285	68,486	(B)	281,771
Salaries and Wages - Commissioners	7,531			7,531
Employee Pension and Benefits				
Retirement	37,359	11,597	(B)	48,956
Insurance Benefits	35,546	10,410	(B)	45,956
Purchased Water	291,583	10,882	(C)	302,465
Purchased Power	22,084			22,084
Materials and Supplies	70,624	(26,554)	(D)	44,070
Contractual Services	47,102	(5,700)	(E)	
		(19,018)	(F)	22,384
Equipment Rental	3,983			3,983
Insurance	16,706	1,313	(B)	
		422	(G)	18,441
Advertising	314			314
Bad Debt	1,234			1,234
Miscellaneous Expenses	50,106	(6,300)	(H)	43,806
Total Operation and Maintenance	797,457	45,539		842,996
Depreciation	389,022	(167,598)	(I)	221,424
Taxes Other Than Income	15,617	6,336	(B)	21,953
Total Operating Expenses	1,202,096	(115,723)		1,086,373
Net Operating Income	(88,872)	142,135		53,263
Plus: Interest Income	1,988			1,988
Gain on Sale of Asset	5,001	(5,001)	(H)	
Income Available to Service Debt	\$ (81,883)	\$ 137,134		\$ 55,251

(A) Billing Analysis Adjustment. Caldwell District provided a billing analysis with the Application that determined normalized test-year revenues from water sales to be in the amount of \$1,107,465 for all customers. The billing analysis was produced

from test-year customer data from the utility's billing software. Caldwell District purchases water from the Princeton Water and Wastewater Commission ("Princeton"). Princeton increased its wholesale rate for water sold to Caldwell District during the test year. Caldwell District adjusted its monthly water rates during the test year pursuant to 807 KAR 5:068 Purchased Water Adjustment.³ Caldwell District's billing analysis provided in the application normalized test-year water revenues, adjusting for the Purchase Water Adjustment, test-year customer sales data, and the closure of the bulk loading station resulting in an increase to water sales revenues as reported in the 2014 Annual Report of \$26,412.

(B) Employee Wages and Wage Overheads. During the test year, Caldwell District employed five full-time employees and one-part time employee. The five full-time employees included a general manager ("GM"), two field employees, and two office employees. The part-time employee worked in the office only when a full-time office employee was absent. Test-year wages totaled \$217,218 and were reported by Caldwell District as shown in the table below:

	<u>Amount</u>	<u>Percent</u>
Wages Capitalized	\$ 3,935	1.81%
Wages Expensed	<u>213,283</u>	<u>98.19%</u>
Total Wages	<u>\$ 217,218</u>	<u>100%</u>

In the Application, Caldwell District requested to increase test-year wages and wage overhead expenses (i.e., insurance, retirement contributions, payroll taxes, and workers' compensation insurance) to account for the addition of a new field employee.

³ Case No. 2014-00260, *Purchased Water Adjustment Filing of Caldwell County Water District* (Ky. PSC Aug. 12, 2014).

It also requested to increase wages, retirement costs, and payroll taxes to account for the effects of pay raises that were awarded to two employees subsequent to the end of test year. Caldwell District's adjustments are summarized below:

	<u>New Employee</u>	<u>Existing Employees</u>	<u>Total Increase</u>
Wages	\$ 37,440	\$ 3,224	\$40,664
Retirement	6,387	550	6,937
Health Insurance	9,053		9,053
Workers' Compensation	77		77
Payroll Taxes	2,864	247	3,111

Staff finds that Caldwell District's wages and wage overheads may be increased as summarized in the table below. The calculation and discussion of each increase follows the table.

	<u>Increase to Test Year</u>
Wages	\$ 68,486
Retirement	11,597
Insurance Benefits	10,410
Workers' Compensation	1,313
Payroll Taxes	6,336

Wages. On July 9, 2015, subsequent to the end of the test year, Caldwell District's Board of Commissioners approved the creation of two new field employee positions to better maintain its water system, improve customer service, and eliminate

the use of contracted meter reading services.⁴ Caldwell District filled the new positions on September 10, 2015, and April 4, 2016. The latter position was filled after Caldwell District's Application was accepted for filing in the instant case. The addition of these employees will increase Caldwell District's employee wages. Staff finds that the amount of the increase is known and measurable and may be included in the calculation of Caldwell District's pro forma operations.

Further, Staff finds that one field employee who earned \$19.50 per hour during the test year was replaced with an employee who currently earns \$18.00 per hour. Staff accounted for this personnel change in pro forma operations.

Finally, Staff finds that Caldwell District's test-year wages may also be adjusted to account for 3 percent wage rate increases for the four employees who were employed during the test year and remained employed at the time of Staff's review. These employees include the two office employees, a field employee and the GM. Each employee received a pay raise on the anniversary of his or her hire date. Each office employee received a 3 percent wage rate increase; the field employee received 14 percent; and the GM received 15 percent. There was no discussion in the minutes of Caldwell District's Board of Commissioners' meetings describing the justification for the large differences in the percentages awarded to the office employees and the field employee and GM. Absent justification, the 14 and 15 percent increases appear

⁴ While the cost of wages and wage overheads for the two new employees exceeds the cost of the contracted meter reading services, the employees provide many services in addition to meter reading that benefit Caldwell District's customers. For example, the addition of the new employees enables Caldwell District to be more responsive to its customers' needs and to perform preventive maintenance to its water distribution system, which will extend the service life of its assets, as noted in Ref Item (I).

unreasonable. For ratemaking purposes, Staff increased the test-year wage rates of all four employees by 3 percent.

To account for the aforementioned changes to test-year personnel and wage rates, Staff increased Caldwell District's test-year wages expense by \$68,486. The calculation of this amount is shown below. Note that the calculation includes a provision for 994 overtime hours that was paid at one and one-half times the employees' regular wage rates, which is the number of overtime hours recorded during the test year. These hours include time that field employees were on call. One employee is on call every day during nonbusiness hours, for which the employee receives two hours of paid overtime, whether called to duty or not. This accounts for 730 (2 hours per day x 365 days) of the total overtime hours. The remaining 264 hours represent overtime hours recorded when the on-call employee was called to duty and when field employees were searching for water leaks during nighttime hours. Because the field employees rotate the on-call duty, Staff calculated overtime wages using one and one half times the average wage rate of the four field employees.

<u>Employee No.</u>	<u>Hours</u>	<u>Wage Rate</u>	<u>Pro Forma Wages</u>
1 Salaried		\$ 62,851	\$ 62,851
2	2,080	18.86	39,229
3	2,080	14.68	30,534
4	2,080	14.68	30,534
5	2,080	18.00	37,440
6 new position	2,080	14.25	29,640
7 new position	2,080	16.00	33,280
Overtime	994	23.60	<u>23,457</u>
Pro Forma Wages			286,965
Times: Test-Year Wage Expense Percentage			<u>98.19%</u>
Pro Forma Wage Expense			281,771
Less: Test Year			<u>(213,285)</u>
Increase			<u>\$ 68,486</u>

Retirement. Caldwell District participates in the County Employee Retirement System ("CERS"). It contributed \$37,359 to CERS during the test year. It is currently required to contribute 17.06 percent of all employee wages to CERS. By applying the current contribution rate to Caldwell District's total pro forma wages, Staff determined that the test-year expense should be increased by \$11,597, as calculated below:

Pro Forma Wages	\$ 286,965
Times: CERS Current Rate	<u>17.06%</u>
Pro Forma CERS Contributions	48,956
Less: Test Year	<u>(37,359)</u>
Increase	<u>\$ 11,597</u>

Employee Insurance Benefit. Caldwell District provides single health, life and vision insurance coverage to each full-time employee at no cost to the employee. An

employee must pay the cost to add anyone to the employee's insurance plan. Caldwell District reported \$35,546 for test-year employee insurance expense. As shown below, Staff determined that the pro forma expense for all employees at current premiums is \$45,956, requiring a \$10,410 increase to the test-year amount.

<u>Employee No.</u>	<u>Annualized Premium</u>
1 Salaried	\$ 9,180
2	12,217
3	9,773
4	3,696
5	3,696
6 new position	3,696
7 new position	<u>3,696</u>
Pro Forma	45,956
Less: Test Year	<u>(35,546)</u>
Increase	<u>\$ 10,410</u>

Workers' Compensation Insurance. During the test year, Caldwell District incurred Workers' Compensation Insurance Expense in the amount of \$4,090. The average workers' compensation rate that was applied to Caldwell District's test-year employee wages was 1.8827 percent. By applying this rate to pro forma wages, Staff determined that test-year workers' compensation insurance expense should be increased by \$1,313, as calculated below:

Test-Year Workers' Compensation	\$ 4,090
Divide by: Total Test-Year Wages	<u>217,218</u>
Average Rate	1.8827%
Times: Total Pro Forma Wages	<u>286,965</u>
Pro Forma Workers' Compensation	5,403
Less: Test Year	<u>(4,090)</u>
Increase	<u>\$ 1,313</u>

FICA Taxes. Caldwell District will incur additional FICA taxes in pro forma operations as a result of the increase to test-year employee wages. Staff determined the amount of the FICA Tax increase to be \$6,336 as shown below:

Total Pro Forma Wages	\$ 286,965
Times: FICA Tax Rate	<u>7.65%</u>
Pro Forma FICA Taxes	21,953
Less: Test Year	<u>(15,617)</u>
Increase	<u>\$ 6,336</u>

(C) Purchased Water. During the test year, Caldwell District purchased wholesale water for resale from Princeton and South Hopkins Water District at a total cost of \$291,583. In the Application, Caldwell District proposed to increase this amount by \$23,081 to account for an increase to the wholesale water rate paid to Princeton and for a decrease to water purchased from Princeton that will result from Caldwell District's removal of its Bulk Loading Station.

Staff agrees that adjustments to test-year operations are warranted for the two items identified by Caldwell District. Its primary water supplier, Princeton, increased its wholesale rate charged to Caldwell District from \$2.024 per hundred cubic feet to

\$2.2871 per hundred cubic feet beginning with water service provided in August 2014. Further, on September 1, 2015, Caldwell District removed its bulk loading station from operations. During Staff's review, a Caldwell District representative stated that the station was operated from property owned by Princeton that was in such a state of disrepair that it presented a safety hazard to those using the station. To protect those using the station from injury, Caldwell District removed the station from operations.

Staff finds that an additional adjustment is warranted to test-year purchased water. Princeton changed its meter reading cycle in August 2014 when it increased the wholesale water rate charged to Caldwell District. As a result, Caldwell District's test-year expense includes the cost of water purchased from December 27, 2013, until January 6, 2015, 376 days, as compared to a typical 365-day year. Staff finds that Caldwell District's test-year purchases should be reduced by 395,103⁵ cubic feet to remove the effects of the change to Princeton's meter reading cycle from Caldwell District's test-year operations.

Staff determined that Caldwell District's test-year purchased water expense should be increased by \$10,882, as calculated below:

5

Test-Year Cubic Feet Purchased from Princeton	13,505,327
Divide by: Number of Days	<u>376</u>
Average Daily Purchases	35,918
Times: Number of Excess Days	<u>11</u>
Cubic Feet Removed from Test-Year Purchases	<u><u>395,103</u></u>

Cubic Feet Purchased from Princeton, Excludes Bulk Station	13,505,327
Remove Cubic Feet for 11 Extra Days	<u>(395,103)</u>
Adjusted Purchases from Princeton	13,110,224
Divide by: 100	<u>100</u>
Adjusted Purchase from Princeton in 100 Cubic Feet	131,102
Times: Current Rate	<u>\$ 2.2871</u>
Pro Forma Volumetric Purchased Water Cost from Princeton	299,844
Plus: Princeton's Monthly Service Charge (9 meters x \$4 x 12 months)	<u>432</u>
Pro Forma Purchased Water from Princeton	300,276
Plus: Test-Year Purchased Water from South Hopkins	<u>2,189</u>
Pro Forma Purchased Water	302,465
Less: Test Year	<u>(291,583)</u>
Increase	<u>\$ 10,882</u>

(D) Meter Replacement. The vast majority of Caldwell District's retail water customers receive service through 5/8- x 3/4-Inch meters. During the test year, Caldwell District purchased 450 new 5/8- x 3/4-Inch meters, with a total cost of \$26,554, or \$59 each, to replace old meters as they are removed and retired from service. At the time of Staff's review, Caldwell District had replaced 146 meters. The remaining 304 new meters remained in inventory.

Caldwell District incorrectly reported the new meters cost as a test-year materials and supplies expense at the time of purchase. Their cost should have been initially reported as materials and supplies inventory and reclassified from inventory to plant as each meter is placed into service. Accordingly, Staff removed the total cost of the meters from test-year expenses and added the cost of 146 meters, \$8,614, to plant in

service. Staff depreciated the cost of these meters in pro forma operations. The cost of the 304 meters that have not been placed into service remains in inventory.

(E) Contracted Legal Fees. During the test year, Caldwell District paid an attorney, who happens to be Caldwell County's elected County Attorney, a \$475 monthly retainer fee. The annual total was \$5,700. In return for the fee, the attorney attended Caldwell District's monthly Board of Commissioners' meetings. He provided no other legal services to Caldwell District during the test year.

KRS 74.030 authorizes a water district to "employ legal counsel whose compensation shall be paid from water district funds." During the 2008 Regular Session of the General Assembly, KRS 74.030 was amended to remove the requirement that the County Attorney act as legal counsel to a water district.⁶ The amendment became effective on July 15, 2008. Prior to this change, a water district was required to obtain the approval of the County Judge/Executive in order to retain legal counsel and be represented by anyone other than the County Attorney.⁷ Thus, Caldwell District now has the discretion to select its legal counsel.

While KRS 74.030 no longer requires the Caldwell County Attorney to represent Caldwell District, the statutes do not prohibit representation by the Caldwell County Attorney.⁸ Nonetheless, regardless of whether the legal services are provided by the Caldwell County Attorney or private counsel, the burden of proof is upon Caldwell District to demonstrate that the test-year expense is necessary and reasonable. Staff

⁶ Ky Acts 2008, c. 6, §4.

⁷ *Id.*

⁸ Staff makes no finding regarding whether the Caldwell County Attorney's representation of Caldwell District is the performance of extra services outside of official duties or whether it is part of the official duties of the office.

reviewed the minutes from the test-year Board of Commissioner's meetings and found no topics discussed that required legal consultation. Further, as noted, there is no longer a statutory requirement for a county attorney to represent a water district. Staff finds that it should remove the test-year legal fees; therefore, staff removed the retainer from Caldwell District's test-year expenses for ratemaking purposes.

(F) Contracted Meter Reading Fees. During the test year, Caldwell District incurred \$19,018 for contracted meter reading services. As previously discussed, subsequent to the test year, Caldwell District created two new field employee positions and has filled both positions with newly hired employees. After filling these positions, Caldwell District's employees began reading meters and Caldwell District discontinued the contract meter reading services. Staff removed the cost of these services from Caldwell District's test-year expenses.

(G) General Liability Insurance. Subsequent to the test year, the city of Princeton increased the municipal tax rate that it applies to Caldwell District's general liability insurance premium. In the Application, Caldwell District requested to increase test-year expenses by \$422 to account for this increase. Staff agrees with the proposed adjustment and increased Caldwell District's test-year expenses by \$422.

(H) Tank Removal. During the test year, Caldwell District paid Iseler Demolition ("Iseler") \$6,300 to dismantle and dispose of a 50,000-gallon elevated water storage tank that had been removed from service. Caldwell District recorded this payment to account 675, Miscellaneous Expenses.

The payment to Iseler is a cost to remove a depreciable asset from service. The Uniform Systems of Accounts ("USoA") requires that this cost be charged to account

108.1, Accumulated Depreciation of Utility Plant in Service.⁹ Staff decreased test-year Miscellaneous Expense to properly account for the Iseler payment.

Staff also noted that Caldwell District incorrectly recorded a test-year gain from the sale of a depreciable asset in the amount of \$5,001 using account 414, Gains (Losses) from Disposition of Utility Property. Use of this account requires the Commission's authorization,¹⁰ which was not sought or received by Caldwell District. Further, the USoA requires that this gain be credited to account 108.1, Accumulated Depreciation of Utility Plant in Service.¹¹ Staff removed the gain from Caldwell District's Income Available to Service Debt.

(l) Depreciation. Caldwell District reported test-year depreciation expense in the amount of \$389,022. It calculated this amount using the whole-life, straight-line method, pursuant to which an asset's depreciable basis is divided by its estimated useful life. In the Application, Caldwell District requested to decrease the test-year amount by \$71,392 to account for:

- 1) an adjustment to the depreciable lives assigned to certain asset groups;
- 2) annualizing depreciation that accrued on assets that were placed into service during December of the test year; and
- 3) post-test-year plant additions.

⁹ USoA for Class A/B Water Districts and Associations at 42.

¹⁰ *Id.* at 84.

¹¹ *Id.* at 42.

Adjustments to Depreciable Lives. In the Application, Caldwell District stated that it proposed to change the depreciable lives that were used to calculate test-year depreciation for certain assets following the Commission's "practice" of making adjustments to lives that "fall outside the ranges recommended by the National Association of Regulatory Utility Commissioners ('NARUC') in its publication titled Depreciation Practices for Small Water Utilities" ("NARUC Study").¹² A summary of Caldwell District's current lives, proposed lives and life ranges recommended in the NARUC Study is provided below. Note that Caldwell District selected the shortest life that is included in the NARUC ranges for each asset group it requests to adjust, and it did not adjust the lives for asset groups that fall within the NARUC ranges.

Account Number NARUC Study	Asset Group	Current Life	NARUC Range	Caldwell County Proposed
311, 321, 331, 341 and 390	Structures and Improvements	5, 10, 20, 39	35-40	35
324-7	Pumping Equipment	5, 15, 20	20	15, 20
332	Water Treatment Equipment	40	20-35	15
342	Distribution Reservoirs and Standpipes	40	30-60	40
343	Transmission and Distribution Mains	10, 20, 40	50-75	50
346	Meters	10, 20, 40	35-45	35
348	Hydrants	40	40-60	40
391	Office Furniture and Equipment	3, 5, 7, 10	20-25	5, 20
392	Transportation Equipment	5, 7, 10	7	7, 10
394	Tools, Shop, and Garage Equipment	5, 10, 15	15-20	10, 15
396	Power Operated Equipment	5, 10	10-15	10
397	Communication Equipment	5	10	5

The Commission's practice is to review the reasonableness of all depreciable lives assigned to a water district's assets, not just those that fall outside the NARUC

¹² Application, ARF Form 1, Attachment SAO-W, References.

ranges. For example, in Case No. 2012-00390,¹³ the Commission adjusted the lives assigned to Crittenden-Livingston Water Districts Pumping Stations, Storage Facilities, Transmission and Distribution Main, Services and Hydrants all of which fell within the NARUC ranges. A summary of the Commission’s findings are shown in the table below:

<u>Asset Group</u>	<u>NARUC Range</u>	<u>Previous Service Life</u>	<u>Commission Approved Life</u>
Pumping Stations	35-40 years	35 years	40 years
Storage Facilities	30-60 years	50 years	60 years
Transmission and Distribution Mains	50-75 years	50 years	75 years
Services	30-50 years	35 years	50 years
Hydrants	40-60 years	50 years	60 years

When evaluating a water district's depreciable lives, the Commission considers an asset group's construction materials, condition, and other factors to determine an appropriate depreciable life that falls within the NARUC ranges. In Case No. 2012-00309,¹⁴ the Commission found that Southern Water and Sewer District's ("Southern") water transmission and distribution mains should be depreciated using a 50-year life, the shortest life within the NARUC range. In that case, Southern stated in its application that the majority, approximately 65 percent, of its mains was constructed of asbestos cement and was installed in the 1960s and 1970s. Southern explained that its mains had deteriorated more rapidly than expected and were close to the end of their useful lives due to their close proximity to major construction projects and roadways and due

¹³ Case No. 2012-00390, *Application of Crittenden-Livingston Water District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities* (Ky. PSC Dec. 20, 2012).

¹⁴ 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).

to the high pressures necessary to move water over the extreme elevation changes that exist throughout its service territory. It stated that this deterioration is evident by its excessive water loss,¹⁵ which was 44.35 percent.¹⁶ The Commission determined that these conditions warranted the 50-year life.

In Case No. 2012-00413, the Commission accepted¹⁷ Staff's finding that the depreciable life assigned to Pendleton County Water District's ("Pendleton") water transmission and distribution mains should be 75 years. Staff supported its position by noting that Pendleton's mains were constructed of polyvinyl chloride and ductile iron, materials that are very durable and can maintain their structural integrity for more than 100 years. Staff continued by stating that Pendleton's mains were thought to be free of material decay and that this was supported by Pendleton's low water loss percentage.¹⁸

In this proceeding, Staff finds that Caldwell District's asset groups should be depreciated using the longest lives included in the NARUC ranges. In support of its position, Staff includes as Attachment B to this report a document titled "System Information" that was prepared by Caldwell District's former GM in April 2003. In this document, the GM asserts, "The existing system is relatively young as far as water systems are considered. Therefore, there should be little major renovation unless a pump station needs improvements due to expansion."

¹⁵ Southern's Application, Attachment C at 19–20.

¹⁶ *Id.* at 13.

¹⁷ Case No. 2012-00413, *Application of Pendleton County Water District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities* (Ky. PSC Dec. 20, 2012), Order at 8.

¹⁸ *Id.* (Ky. PSC Oct. 29, 2012), Commission Staff Report at 10.

From discussions with the current GM, Staff understands that no major pump expansions are expected; the system, as a whole, is in satisfactory condition; and there is no reason to believe that significant replacements of major assets will be required at an accelerated rate. In fact, the life of assets is expected to be extended as a result of the addition of the two new field employees who, the GM explained, were hired, in part, to allow Caldwell District to perform preventive maintenance to its system that has not been performed previously. Staff concludes that the depreciable lives to be applied to Caldwell District's account groups should be set at the longer end of the NARUC ranges, as summarized below:

Account Number NARUC Study	Account Group	Current Life	NARUC Range	Staff Proposed
311, 321, 331, 341 and 390	Structures and Improvements	5, 10, 20, 39	35-40	40
324-7	Pumping Equipment	5, 15, 20	20	20
332	Water Treatment Equipment	40	20-35	35
342	Distribution Reservoirs and Standpipes	40	30-60	60
343	Transmission and Distribution Mains	10, 20, 40	50-75	75
347	Meter Installations	10, 20, 40	40-50	50
348	Hydrants	40	40-60	60
391	Office Furniture and Equipment	3, 5, 7, 10	20-25	25
392	Transportation Equipment	5, 7, 10	7	7
394	Tools, Shop, and Garage Equipment	5, 10, 15	15-20	20
396	Power Operated Equipment	5, 10	10-15	15
397	Communication Equipment	5	10	10

In the table above, Staff used account 347, Meter Installations, for depreciating the cost of meters and meter installations instead of account 346, Meters, as proposed by Caldwell District. In the NARUC Study, these accounts are used for depreciation purposes to separate the cost of meters from the cost of meter installations; however, Caldwell District combined its costs in the plant ledger, as allowed by the USoA,¹⁹ and

¹⁹ USoA, Account 334, Meters and Meter Installations, at 74.

did not separate these costs for depreciation purposes. It reported the entire cost to account 346, Meters. Staff reported the entire amount to account 347, Meter Installations, since the majority of these costs are known to be attributed to installations. For example, during the test year, Caldwell District capitalized \$15,703 for the total cost of installing 16 new meter connections, which included \$939 for the cost of meters and \$14,764 for the cost of meter installations.

Annualized Depreciation on Assets Placed into Service During the Test Year.

Staff finds partial depreciation reported on assets placed into service during the test year should be annualized in pro forma operations. Staff included a full year of depreciation of these assets in its calculation of Caldwell District's pro forma depreciation expense.

Post-Test-Period Plant Additions. Caldwell District requested to increase test-year depreciation to include depreciation on the three assets listed below that were placed into service subsequent to the test year.

<u>Asset</u>	<u>Cost</u>
Excavator	\$ 29,071
Hydraulic Ram	18,000
Flow Meters	30,000

Staff finds that it is appropriate for Caldwell District to depreciate these assets in pro forma operations. The two pieces of equipment are currently used by field employees to conduct Caldwell District's daily operations. The asset labeled as flow meters in the Application does not actually represent meters; it is meter connection sites at 16 different locations on Caldwell District's distribution system where a portable flow meter may be temporarily installed from time to time to assist in locating water leaks.

Staff included the actual cost of each of these three assets in the calculation of Caldwell District's pro forma depreciation expense. The actual costs shown below were taken from vendor invoices obtained from Caldwell District.

<u>Asset</u>	<u>Actual Cost</u>
Excavator	\$ 29,071
Hydraulic Ram	15,656
Meter Connections, Leak Detection	19,986

Staff determined that Caldwell District's test-year depreciation expense must be decreased by \$167,568 to account for all of the aforementioned adjustments. The calculation of the adjustment is shown in Attachment C of this report.

Overall Revenue Requirement
and Required Revenue Increase

The Commission has historically applied a DSC method to calculate the Overall Revenue Requirement of a water district or a water association that has outstanding long-term indebtedness. The method generally accepted by the Commission allows for recovery of: 1) cash related pro forma operating expenses; 2) depreciation expense, a non-cash item, to provide working capital;²⁰ 3) the average annual principal and interest

²⁰ 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).

payments on all long-term debts; and 4) working capital that is in addition to depreciation expense.

Caldwell District applied the Commission’s DSC method to calculate its revenue requirement. Staff agrees that application of this method is consistent with the general practice of the Commission and has also applied this method to calculate Caldwell District’s Overall Revenue Requirement. A comparison of Caldwell District’s and Staff’s calculation of the Caldwell District’s Overall Revenue Requirement and Required Revenue Increase using the Commission’s DSC method is shown below:

	<u>Caldwell District</u>	<u>Staff</u>	<u>(Ref.)</u>
Operating Expenses	\$1,214,049	\$1,086,373	
Plus: Average Annual Debt and Principal Payments	249,893	220,258	(1)
Additional Working Capital	<u>48,270</u>	<u>44,052</u>	(2)
Overall Revenue Requirement	1,512,212	1,350,682	
Less: Other Operating Income	(32,171)	(32,171)	
Interest Income	<u>(1,988)</u>	<u>(1,988)</u>	
Revenue Required from Rates	1,478,053	1,316,523	
Less: Pro Forma Present Rate Revenue	<u>(1,103,885)</u>	<u>(1,107,465)</u>	
Required Revenue Increase	<u>\$ 374,168</u>	<u>\$ 209,058</u>	
Increase Percentage	<u>33.90%</u>	<u>18.88%</u>	

(1) Average Annual Principal and Interest Payments. Caldwell District currently has outstanding debts payable to the United States Department of Agriculture Rural Development (“RD”) and to the Kentucky Infrastructure Authority (“KIA”). In the Application, Caldwell District determined that the three-year average annual principal

and interest payments on all debts for the years 2015, 2016, and 2017 are \$249,893.²¹ It calculated the amount using amortization schedules that were provided in the Application for each debt instrument. Caldwell District included the average annual payment in the calculation of its Overall Revenue Requirement.

Staff found that the interest payments included in Caldwell District's calculation are incorrect and that a five-year average should be used instead of the three-year average proposed by Caldwell District.

The RD and KIA debt amortization schedules included in the Application are not official schedules issued by Caldwell District's lenders. They were compiled by a third party. The annual interest payments shown on the schedules for the RD Bond Series 1996, 1999A, 1999B, 2002 and 2004 are overstated. While the interest rates shown on the schedules, which range from 3.25 percent to 4.875 percent, are correct, they are not the interest rates that were used to calculate the interest payments shown on the schedules. The interest payments were inadvertently calculated using the interest rate stated for RD Bond Series 1993, or 5 percent, resulting in an overstatement of interest. For example, the actual interest that Caldwell District will pay in 2016 on Bond Series 1999A is \$20,597, but the amount of interest shown on the amortization schedule is \$33,150.

Staff also found an error on the KIA amortization schedule where Interest and Service Fees to be paid in the year 2017 are stated at \$6,608. The correct amount is \$1,608. Correction of this error, and of the errors on the RD bond schedules, results in

²¹ Application, Table C.

a three-year average debt payment for the years 2015, 2016, and 2017 in the amount of \$225,273, as calculated below:

Year	RD		KIA		Total Debt Payment
	Principal	Interest	Principal	Interest	
2015	\$ 73,000	\$136,813	\$ 10,000	\$ 2,523	\$ 222,336
2016	76,500	133,578	10,000	2,096	222,174
2017	79,500	130,200	20,000	1,608	231,308
Total	<u>\$229,000</u>	<u>\$400,591</u>	<u>\$ 40,000</u>	<u>\$ 6,227</u>	675,818
Divide by: 3 Years					<u>3</u>
3-Year Average					<u>\$ 225,273</u>

Staff further finds that the average annual debt payment to be included in the calculation of Caldwell District's Overall Revenue Requirement should be equal to the five-year average of the years 2016 through 2020, not the three-year average of the years 2015 through 2017 proposed by Caldwell District. This five-year average allows Caldwell District recovery of the debt payments that will be made during the anticipated life of the rates authorized by the Commission in this proceeding.²²

²² Generally, the anticipated life of a utility's service rates is based on the frequency of the utility's previous rate case filings, but no longer than five years, since rates tend to become obsolete due to changes that will likely occur to the utility's cost of service in a five-year period.

Caldwell District's previous general rate case filing was made in Case No. 2007-00546. Since the elapsed time between that case and this proceeding is approximately nine years, or four years longer than the five-year maximum, Staff anticipates that the life of the rates approved in this proceeding will be five years.

Year	RD		KIA		Total Debt Payment
	Principal	Interest	Principal	Interest	
2016	\$ 76,500	\$ 133,578	\$ 10,000	\$ 2,096	\$ 222,174
2017	79,500	130,200	20,000	1,608	231,308
2018	84,000	126,659	15,000	668	226,327
2019	88,000	122,934			210,934
2020	91,500	119,045			210,545
Total	<u>\$419,500</u>	<u>\$632,416</u>	<u>\$ 45,000</u>	<u>\$ 4,372</u>	1,101,288
Divide by: 5 Years					<u>5</u>
5-Year Average					<u>\$ 220,258</u>

(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

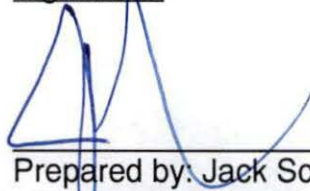
debt payments. In this case, Staff calculated the amount to be \$44,052 for Caldwell District.²³

Average Annual Principal and Interest Payments	\$ 220,258
Times: DSC Ratio	<u>120%</u>
Total Net Revenues Required	264,309
Less: Average Annual Principal and Interest Payments	<u>(220,258)</u>
Additional Working Capital	<u>\$ 44,052</u>

²³ The RD bond resolutions require Caldwell District to assess rates for water service that produce net revenues that are equal to at least 120 percent of the average annual RD bond principal and interest payments as well as all principal and interest payments on any debts that are on par with the RD bonds. The DSC ratio measures an entity's ability to pay its cash related operating expenses and to pay debt principal and interest. RD calculates the ratio by dividing net revenues by the entity's average annual debt principal and interest payments. Net revenues are equal to total revenues less cash related expenses. Depreciation expense, a noncash operating expense, is excluded from the determination of net revenues. As shown below, the required DSC ratio is met with or without including the additional working capital in Caldwell District's overall revenue requirement.

	<u>With Additional Working Capital</u>	<u>Without Additional Working Capital</u>
Overall Revenue Requirement	\$ 1,350,682	\$ 1,306,630
Less: Operatoin and Maintenance Expense	(842,996)	(842,996)
Taxes Other Than Income	<u>(21,953)</u>	<u>(21,953)</u>
Net Revenues	485,733	441,682
Divide by: Average Annual Debt Payment	<u>220,258</u>	<u>220,258</u>
DSC Ratio	<u>221%</u>	<u>201%</u>

Signatures



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



Prepared by: Eddie Beavers
Water and Sewer Rate Design Branch
Division of Financial Analysis

ATTACHMENT A

STAFF REPORT, CASE NO. 2016-00054
MONTHLY WATER RATES CALCULATED BY STAFF

First	1,000 gallons	\$25.17 Minimum bill
Next	3,000 gallons	13.04 per 1,000 gallons
Next	6,000 gallons	10.60 per 1,000 gallons
Next	20,000 gallons	8.18 per 1,000 gallons
Over	30,000 gallons	7.15 per 1,000 gallons

ATTACHMENT B

STAFF REPORT, CASE NO. 2016-00054
CALDWELL COUNTY WATER DISTRICT SYSTEM INFORMATION

Caldwell County Water District System Information

A. Water Storage:

Number of Storage Structures: 3

Type: Ground Storage Tank: 1 Elevated Tank: 2

Total Storage Volume Capacity: 370,000 Gallons

Date Storage Tank(s) Constructed: 50,000 Gal. Elevated - 1988 (Not in Use)
220,000 Gal. Ground - 1993
100,000 Gal. Elevated - 1996

B. Water Distribution System:

Pipe Material Polyvinylchloride (PVC) and Cast Iron

Lineal Feet of Pipe: 3" Diameter	<u>52,800</u>	8" <u>94,000</u>
4" Diameter	<u>464,000</u>	10" <u>50,000</u>
6" Diameter	<u>453,000</u>	

C. Date(s) Water Lines Constructed: Phase I - 1988, Phase IIAB - 1993,
Phase IICD - 1996, Phase III - 1999,
Phase IV - 2000

D. Number and Capacity of Pump Station(s): Two (2) Pump Stations
Pump Sta. #2 at 10420 Hopkinsville Road rated at 300 gpm @ 260' TDH
Pump Sta. #3 at Dalton Road rated at 70 gpm @ 130' TDH

E. Condition of Existing Water System: The existing system is relatively young as far as water systems are considered. Therefore, there should be little major renovation unless a pump station needs improvements due to expansion.

ATTACHMENT C

STAFF REPORT, CASE NO. 2016-00054

	Account Number		Asset Identification Number Stated on Plant Ledger	Original Cost	Life Assigned by Staff	Pro Forma Depreciation
	USoA	NARUC Study				
Structures and Improvements						
Fully Depreciated	304	311, 321, 331, 341, 390	26-30, 84	\$ 26,613	-	-
Not Fully Depreciated			106, 108, 37, 38, 44, 77, 83, 97, 121	254,709	40	\$ 6,368
Pumping Equipment	311	324-7	37, 38, 44, 76, 131,116	163,436	20	8,172
Water Treatment Equipment	320	332	75	123,328	35	3,524
Distribution Reservoirs and Standpipes	330	342	37, 38, 44	480,688	60	8,011
Transmission and Distribution Mains	331	343, 344	31-41, 43-46, 53-58, 74, 85, 95, 109, 127	12,504,467	75	166,726
Meter Installations	334	346, 347	37, 38, 42, 44, 67, 99, 101, 102, 107, 130	321,646	50	6,433
Hydrants	335	348	37, 38, 44	83,083	60	1,385
Office Furniture and Equipment						
Fully Depreciated	340	391	1-3, 7, 11-13, 19, 80	17,795	-	-
Not Fully Depreciated			87, 89, 103, 113	14,452	25	578
Transportation Equipment						
Fully Depreciated	341	392	49, 51, 70, 72	73,945	-	-
Not Fully Depreciated			69, 122	32,350	7	4,621
Tools, Shop, and Garage Equipment						
Fully Depreciated	343	394	47	552	-	-
Not Fully Depreciated			92, 93, 114, 124, 126, 132	32,982	20	1,649
Power Operated Equipment	345	396	68, 115	131,918	15	8,795
Communication Equipment						
Fully Depreciated	346	397	4, 5, 8, 10, 79, 81, 82, 86	22,819	-	-
Not Fully Depreciated			90, 91, 104,105, 111, 112, 117, 128, 129	16,380	10	1,638
Total Test Year				14,301,162		
Meters Capitalized by Staff, See Ref. Item (D)				8,614	50	172
Post-Test-Year Plant Additions Proposed by Utility						
Excavator				29,071	15	1,938
Hydraulic Ram				15,656	15	1,044
Meter Connections, Leak Detection				19,986	50	400
Pro Forma				<u>\$ 14,374,489</u>		221,453
Less: Test Year						<u>(389,022)</u>
Decrease						<u>\$ (167,568)</u>

During its review, Staff found that Caldwell District is currently operating a storage tank and pumping station that was constructed and placed into service as part of the 1993 water main extension project. The total cost of the project, \$1,330,411, is recorded on Caldwell District's plant ledger as Asset No. 44 and is depreciated over 40 years. For depreciation purposes in this report, Staff separated the 1993 project's total costs into the asset groups shown below using information obtained from Caldwell District.

Structures and Improvements	\$ 52,604
Pumping Equipment	29,500
Distribution Reservoirs and Standpipes	275,416
Transmission and Distribution Mains	805,482
Meters and Meter Installations	137,162
Hydrants	<u>30,247</u>
Total Cost	<u>1,330,411</u>

Staff also found that Caldwell District is currently operating a storage tank and pumping station that was constructed and placed into service as part of the 1996 water line extension project. The total cost of the 1996 project, \$1,571,126, is reported in Caldwell District's plant ledger as Asset Nos. 37 and 38 in the amounts of \$49,957 and \$1,521,169, respectively, and is depreciated over 40 years. For depreciation purposes in this report, Staff separated the 1996 project's costs into the asset groups shown below using information obtained from Caldwell District.

Structures and Improvements	\$ 87,351
Pumping Equipment	86,324
Distribution Reservoirs and Standpipes	205,272
Transmission and Distribution Mains	1,050,446
Meters and Meter Installations	88,898
Hydrants	<u>52,836</u>
Total Cost	<u>1,571,126</u>

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