

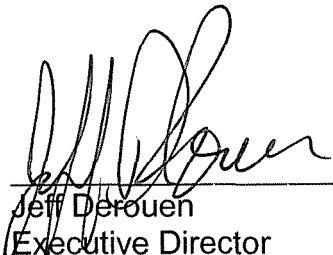
COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF THE MONROE COUNTY)
WATER DISTRICT FOR THE APPROVAL OF) CASE NO.
THE PROPOSED INCREASE IN RATES FOR) 2011-00272
WATER SERVICE)

NOTICE OF FILING OF COMMISSION STAFF REPORT

Notice is hereby given that, in accordance with the Commission's Order of October 28, 2011, the attached report containing the findings and recommendations of Commission Staff regarding the Applicant's proposed rate adjustment has been filed in the record of the above-styled proceeding.



Jeff Derouen
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATED: NOV 03 2011

cc: Parties of Record

STAFF REPORT
ON
MONROE COUNTY WATER DISTRICT
CASE NO. 2011-00272

Pursuant to a request by Monroe County Water District ("Monroe County") for assistance with the preparation of a rate application, Commission Staff ("Staff") performed a limited financial review of Monroe County's test-period operations, for the calendar year ending December 31, 2010. The scope of Staff's review was limited to obtaining information as to whether the test-period operating revenues and expenses were representative of normal operations. Insignificant or immaterial discrepancies were not pursued and are not addressed.

Mark Frost and Sam Reid of the Commission's Division of Financial Analysis performed the limited review. This report summarizes Staff's review and recommendations. Mr. Reid is responsible for the pro forma revenue adjustment, the Cost-of-Service Study, and the calculation of the recommended rates. Mr. Frost is responsible for all pro forma expense adjustments, the revenue requirement determination, and cash flow calculations.

Upon completion of its limited review, Staff assisted Monroe County in the preparation of its rate application, which Monroe County filed with the Commission on August 15, 2011. Staff finds that Monroe County accurately reports its test-period operations in its application and that the proposed pro forma adjustments meet the ratemaking criteria of known and measurable. Appendix A is Monroe County's pro

forma operating income statement. Appendix B contains an explanation of each pro forma adjustment accepted by Staff.

As shown in Table 1, Monroe County's requested pro forma operations supports a revenue requirement from rates of \$1,504,411, an increase of \$314,606, or 26.4 percent, above the normalized revenue from rates of \$1,189,805.

Table 1: Revenue Requirement			
	Average		
	Debt Service	Coverage	Requirement
Debt Service Coverage	\$ 215,446	x 0.2	= \$ 43,089
Debt Service			215,446
Add: Pro Forma Operating Expenses			1,005,753
Depreciation			290,670
Taxes Other Than Income			+ 24,416
Total Revenue Requirement			\$ 1,579,374
Less: Other Income & Deductions			- 15,270
Revenue Requirement from Operations			\$ 1,564,104
Less: Other Operating Revenues			- 59,693
Revenue Requirement from Water Sales			\$ 1,504,411
Less: Pro Forma Revenue - Water Sales			- 1,189,805
Requested Increase			\$ 314,606
Percentage Increase			26.442%

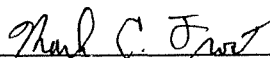
Monroe County proposes to phase-in its requested increase over two years to lessen the proposed rate adjustment's effect on ratepayers. Under its proposal, Monroe County will immediately adjust its rates to increase annual revenues \$157,541, or approximately 11.69 percent. One year later it will adjust its rates again to generate additional annual revenues of \$158,413.¹ As shown in Table 2, the total revenues generated from the first phase of the proposed rate adjustment is sufficient to meet annual pro forma "cash" expenses and the debt-service coverage requirement of Monroe County's bond ordinances in 2012. Similarly, the total revenues generated from the latter phase of the proposed rate adjustment will meet such requirements in 2013.

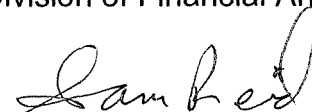
¹ Application at 3.

Table 2: Annual Cash Flows and Debt Service Requirements		
	2012	2013
Normalized Revenue - Water Sales 2010	\$ 1,189,805	\$ 1,189,805
Add: Requested Increase	+ 157,541	+ 314,606
Revenues - Water Sales	\$ 1,347,346	\$ 1,504,411
Add: Other Income & Deductions	15,270	15,270
Other Operating Revenues	+ 59,693	+ 59,693
Total Revenues Available for Operating Exp. and Debt Service	\$ 1,422,309	\$ 1,579,374
Less: Operating Expenses	- 1,320,839	- 1,320,839
Net Operating Income	\$ 101,470	\$ 258,535
Add: Depreciation & Amortization	+ 290,670	+ 290,670
Income Available for Debt Service	\$ 392,140	\$ 549,205
Less: Annual Debt Service	- 216,550	- 214,851
Net Cash Flow	\$ 175,590	\$ 334,354
Income Available for Debt Service	\$ 392,140	\$ 549,205
Divided by: Annual Debt Service	÷ 175,590	÷ 214,851
Debt Service Coverage	2.23	2.56

Commission Staff finds that Monroe County's proposed rates, which are set forth in Appendix C, will produce the recommended revenue requirements and reasonably reflect the water district's cost to furnish service within each water usage block. Commission Staff further finds that Monroe County's cost-of-service study, which is an exhibit to the water district's application, was prepared in accordance with accepted ratemaking standards and that its results fully support the proposed rates.

Signatures


 Prepared by: Mark C. Frost
 Financial Analyst, Water and Sewer
 Revenue Requirements Branch
 Division of Financial Analysis


 Prepared by: Sam Reid
 Rate Analyst, Communications, Water
 and Sewer Rate Design Branch
 Division of Financial Analysis

APPENDIX A
STAFF REPORT CASE NO. 2011-00272
PRO FORMA OPERATIONS

	2009 Annual Report	Pro Forma Adjustments	Adj. Ref.	Pro Forma Operations
Operating Revenues:				
Revenue – Metered Water Sales	\$ 1,134,222	\$ 55,583	(a)	\$ 1,189,805
Other Operating Revenues:				
Forfeited Discounts	23,297	0		23,297
Misc. Service Revenues	36,396	0		36,396
Total Other Operating Rev.	\$ 59,693	\$ 0		\$ 59,693
Total Operating Rev.	\$ 1,193,915	\$ 55,583		\$ 1,249,498
Operating Expenses:				
Operation & Maintenance:				
Salaries & Wages – Emp.	\$ 259,424	\$ 29,618	(b)	\$ 289,042
Salaries & Wages – Com.	6,000	0		6,000
Emp. Pension & Benefits	20,683	44,552	(c)	65,235
Purchased Water	356,768	31,740	(d)	388,508
Purchased Power	48,122	0		48,122
Materials & Supplies	62,072	29,543	(e)	91,615
Cont. Services – Acct.	8,000	0		8,000
Cont. Services – Mgt.	14,278	(13,850)	(f)	428
Cont. Services – Water Testing	6,992	0		6,992
Cont. Services – Other	40,093	0		40,093
Transportation	19,757	0		19,757
Ins. – Gen. Liability	16,987	(1,507)	(g)	15,480
Ins. – Workers Comp.	5,673	948	(g)	6,621
Insurance – Other	45,256	(44,200)	(g)	1,056
Bad Debt Expense	5,273	0		5,273
Miscellaneous	22,626	(9,095)	(h)	13,531
Total Operation & Maint.	\$ 938,004	\$ 67,749		\$ 1,005,753
Depreciation	238,082	52,588	(i)	290,670
Taxes Other Than Income:				
Payroll Taxes	20,628	1,483	(j)	22,111
Other Tax & License	2,305	0		2,305
Utility Operating Exp.	\$ 1,199,019	\$ 121,820		\$ 1,320,839
Net Utility Operating Income	\$ (5,104)	\$ (66,237)		\$ (71,341)
Other Income & Deductions:				
Interest Income	15,270	0		15,270
Net Income Available for Debt Service	\$ 10,166	\$ (66,237)		\$ (56,071)

APPENDIX B
STAFF REPORT CASE NO. 2011-00272
PRO FORMA ADJUSTMENTS

(a) Revenue from Water Sales: This adjustment reflects the current rates applied to Commission Staff's billing Analysis.

	Bills	Gallons	Amount
Normalized Revenue from Water Sales - Existing	3,363	208,787,540	\$ 1,189,805
Less: Reported Revenue from Water Sales			- 1,134,222
Pro Forma Adjustment			<u>\$ 55,583</u>

(b) Salaries & Wages: Staff is applying the 2011 wages to the hours worked during the 2009 test period.

Position Title	2011 Wages	2009 Hours		Total
		Regular	Overtime	
Office Manager	\$ 17.40	2,080.00	63.00	\$ 37,836
Distribution Crew Supervisor	\$ 16.55	2,080.00	141.00	37,925
Accounts Receivable III	\$ 11.61	2,080.00	12.50	24,367
Customer Service Rep. Sup.	\$ 14.70	2,080.00	284.50	36,849
General Manager	\$ 21.63	2,080.00	54.00	46,742
Accounts Receivable III	\$ 11.15	2,080.00	44.00	23,928
Meter Tester/Equip. Operator II	\$ 14.70	2,080.00	144.50	33,762
Laborer II	\$ 11.39	2,080.00	42.50	24,417
Laborer	\$ 9.44	2,080.00	38.00	20,173
Accounts Receivable I	\$ 8.50	358.00	0.00	3,043
Pro Forma Salaries & Wages - Employees				\$ 289,042
Less: Reported 2009 Salaries & Wages - Employees				- 259,424
Pro Forma Adjustment				<u>\$ 29,618</u>

(c) Employee Pension and Benefits: Commission Staff's adjustment is based upon the current employer retirement contribution rate, the pro forma salaries and wages, and the current employee insurance premiums.

Position Title	Employee Benefits			Totals
	Health Ins.	Dental & Life	Retirement 8%	
Office Manager	\$ 4,912	\$ 353	\$ 3,027	\$ 8,292
Distribution Crew Supervisor	2,838	54	3,034	5,926
Accounts Receivable III	0	119	1,949	2,068
Customer Service Rep. Sup.	6,177	479	2,948	9,604
General Manager	6,291	590	3,739	10,620
Accounts Receivable III	6,291	470	1,914	8,675
Meter Tester/Equip. Operator II	4,650	180	2,701	7,531
Laborer II	6,178	590	1,953	8,721
Laborer	1,851	333	1,614	3,798
Accounts Receivable I	0	0	0	0
Pro Forma Emp. Pension and Benefits	<u>\$ 39,188</u>	<u>\$ 3,168</u>	<u>\$ 22,879</u>	<u>\$ 65,235</u>
Less: Reported 2009 Salaries & Wages - Employees				- 20,683
Pro Forma Adjustment				<u>\$ 44,552</u>

(d) Purchased Water: Commission Staff applied the purchased water rate that became effective on January 1, 2011 to the test-period water purchases.

Test-Period Purchased Water - Gallons	253,926.50
Purchased Water Rate Effective 01/01/2011	\$ 1.53
Pro Forma Purchased Water Expense	\$ 388,508
Less: Reported Purchased Water Expense	- 356,768
Pro Forma Adjustment	\$ 31,740

(e) Materials & Supplies: Commission Staff is correcting the amount reported in the annual report to reflect the results of its limited financial review.

Account		
No.	Title	
05250-0000	Uniforms	\$ 7,980
05300-0000	Supplies (Gen)	7,215
05310-0000	Supplies (In ground)	10,615
05350-0000	Utility Repairs - Maint	18,134
05360-0000	Equip Repairs - Maint	12,307
05400-0000	Office Expense	30,710
05410-0000	Office Maint - Repair	4,654
Materials & Supplies		\$ 91,615
Less: Materials & Supplies - 2009 Annual Report		- 62,072
Difference		\$ 29,543

(f) Contractual Services - Management: Upon its review of the general ledger and test-period invoices, Commission Staff determined that the listed capital expenditures had been incorrectly expensed.

Transaction		
Date	Description	
01/14/09	Administrative Fee - WRIS ID: WX21171027 Grant: 324N-2008	\$ (6,250)
04/14/09	Engineer R Hammer/Rhoton Water Line Extensions	(2,400)
05/12/09	Engineer Water Line Extensions	(4,000)
08/07/09	Engineering Roach Rd Water Line Extensions	+ (1,200)
Total Capital Expenditures		\$ (13,850)

(g) Insurance: Commission Staff is adjusting insurance expense to reflect the current premiums for general liability, workers' compensation, and bond coverage.

Insurance Type/Account	Current Premiums	Test-Period Premiums	Pro Forma Adjustment
KACO - General Liability	\$ 15,480	\$ 16,987	\$ (1,507)
KACO - Workers Compensation	6,621	5,673	948
Other - Bonds	1,056	45,256	+ (44,200)
Totals	\$ 23,157	\$ 67,916	\$ (44,759)

(h) Miscellaneous: Commission Staff is correcting the amount reported in the annual report to reflect the results of its limited financial review.

Account No.	Title		
05210-0000	Telephone	\$	4,961
05800-0000	Dues & Subs		6,494
05850-0000	Meetings & Educational		2,026
05900-0000	Miscellaneous Expense	+	50
Miscellaneous		\$	13,531
Less: Miscellaneous - 2009 Annual Report		-	22,626
Difference		\$	<u>(9,095)</u>

(i) Depreciation: Commission Staff is proposing to adjust test-period depreciation expense to reflect depreciation lives recommended by the National Association of Regulatory Utility Commissions.

		Staff Depreciation	
		Lives	Expense
Structures & Improvements	\$ 126,842	38	\$ 3,338
Pumping Equipment	413,988	20	20,699
Distribution Reservoirs	208,835	45	4,641
Transmission & Distribution Mains	1,292,182	50	25,844
Services	7,479,795	40	186,995
Meters & Installations	120,774	40	3,019
Other Plant	672,572	35	19,216
Furniture & Equipment	32,370	23	1,407
Transportation Equipment	85,363	7	12,195
Power Operated Equipment	173,102	13	13,316
CWIP	220,260	N/A	+ 0
Totals	<u>\$ 10,826,083</u>		\$ 290,670
Less: Reported Depreciation Expense			- 238,082
Pro Forma Adjustment			<u>\$ 52,588</u>

(j) Payroll Taxes: Commission Staff is applying the payroll tax rate to the normalized salaries and wages expense.

Position Title	Pro Forma Payroll	FICA
		\$76,000 7.65%
Office Manager	\$ 37,836	\$ 2,894
Distribution Crew Supervisor	\$ 37,925	2,901
Accounts Receivable III	\$ 24,367	1,864
Customer Service Rep. Sup.	\$ 36,849	2,819
General Manager	\$ 46,742	3,576
Accounts Receivable III	\$ 23,928	1,830
Meter Tester/Equip. Operator II	\$ 33,762	2,583
Laborer II	\$ 24,417	1,868
Laborer	\$ 20,173	1,543
Accounts Receivable I	\$ 3,043	+ 233
Pro Forma Payroll Tax		\$ 22,111
Less: Test Period Payroll Taxes		- 20,628
Pro Forma Adjustment		<u>\$ 1,483</u>

APPENDIX C
STAFF REPORT CASE NO. 2011-00272
STAFF'S RECOMMENDED
RATES

Monthly Rates – Phase I:

5/8" x 3/4" Meter

First	2,000 gallons	\$ 15.96	Minimum Bill
Next	3,000 gallons	\$ 5.85	per 1,000 gallons
Next	5,000 gallons	\$ 4.97	per 1,000 gallons
Over	10,000 gallons	\$ 4.21	per 1,000 gallons

1" Meter

First	5,000 gallons	\$ 33.51	Minimum Bill
Next	5,000 gallons	\$ 4.97	per 1,000 gallons
Over	10,000 gallons	\$ 4.21	per 1,000 gallons

2" Meter

First	20,000 gallons	\$ 100.46	Minimum Bill
Over	20,000 gallons	\$ 4.21	per 1,000 gallons

WHOLESALE WATER RATE: \$ 2.11 per 1,000 gallons

Monthly Rates – Phase II:

5/8" x 3/4" Meter

First	2,000 gallons	\$ 17.15	Minimum Bill
Next	3,000 gallons	\$ 6.90	per 1,000 gallons
Next	5,000 gallons	\$ 5.70	per 1,000 gallons
Over	10,000 gallons	\$ 4.80	per 1,000 gallons

1" Meter

First	5,000 gallons	\$ 37.85	Minimum Bill
Next	5,000 gallons	\$ 5.70	per 1,000 gallons
Over	10,000 gallons	\$ 4.80	per 1,000 gallons

2" Meter

First	20,000 gallons	\$ 114.35	Minimum Bill
Over	20,000 gallons	\$ 4.80	per 1,000 gallons

WHOLESALE WATER RATE: \$ 2.11 per 1,000 gallons

Richard O Ross
General Manager
Monroe County Water District
205 Capp Harlan Road
Tompkinsville, KY 42167

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF THE MONROE COUNTY)
WATER DISTRICT FOR THE APPROVAL OF THE) CASE NO. 2011-00272
PROPOSED INCREASE IN RATES FOR WATER)
SERVICE)

ORDER

Monroe County Water District ("Monroe District") has applied for authority to increase its water rates. By this Order, we establish rates that will produce annual revenues from water sales of \$1,504,411, an increase of \$314,606, or 26.4 percent, over normalized revenue from rates of \$1,189,805. The approved rates will increase the average monthly residential bill for 5,000 gallons of water from \$29.42 to \$37.85, an increase of \$8.43, or 28.65 percent. This increase will be implemented in two phases over a one-year period.

Monroe District, a water district organized pursuant to KRS Chapter 74, owns and operates facilities that distribute and furnish water to approximately 3,341 customers in Monroe County, Kentucky.¹ It is a utility subject to Commission jurisdiction.² This proceeding represents Monroe District's first application for a general

¹ *Annual Report of Monroe County Water District to the Public Service Commission For the Calendar Year Ended December 31, 2010* at 5 and 27.

² KRS 278.010(3)(d); KRS 278.015.

rate adjustment since 1998.³ Its most recent rate adjustment occurred in January 2011 pursuant to the purchased water adjustment procedures.⁴

Monroe District filed its application for a general rate adjustment with the Commission on August 15, 2011. Its proposed rates would increase the average monthly residential bill of 5,000 gallons from \$29.42 to \$37.85, an increase of \$8.43, or 28.65 percent, and would generate annual revenues from water sales of \$1,504,411. Seeking a gradual increase in rates to meet its proposed revenue requirements, Monroe District proposed to adjust its rates approximately 11.69 percent immediately to generate additional revenues of \$157,541 and to adjust its rates again one year later to generate additional revenues of \$158,143. Finding that further investigation of the proposed rates was necessary, we initiated this proceeding and directed Commission Staff to perform a limited financial review of Monroe District's test-period operations.

On November 3, 2011, Commission Staff issued a report containing its findings and recommendations in which it found that Monroe District's pro forma operations supported the proposed revenue requirement and that the proposed rates would generate sufficient revenues to cover its reasonable expenses and its existing debt service obligations. Commission Staff recommended that the Commission approve the proposed rates.

Pursuant to the provisions of the Commission's Order of October 28, 2011, Monroe District was required to submit its objections to Commission Staff's findings and

³ Case No. 98-258, *The Application of Monroe County Water District of Monroe County, Kentucky, For a Certificate of Public Convenience and Necessity To Construct, Finance and Increase Rates Pursuant To KRS 278.023* (Ky. PSC May 27, 1998).

⁴ Case No. 2010-00480, *Purchased Water Adjustment Filing of Monroe County Water District* (Ky. PSC Jan. 3, 2011).

recommendations no later than November 17, 2011 or be deemed as accepting those findings and recommendations. Monroe District did not submit any objections to those findings and recommendations. On November 14, 2011, it wrote to advise the Commission that this matter should be submitted for decision based upon the existing record.

Having considered the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. The findings and recommendations contained in the Commission Staff's report are supported by the evidence of record, are reasonable, and should be adopted.

2. The calendar year ending December 31, 2009 should be used as the test period to determine the reasonableness of Monroe District's existing and proposed rates.⁵

3. Based upon pro forma test-period operations, Monroe District's pro forma annual revenues are \$1,249,498. Approximately \$1,189,805 of these revenues resulted from water sales.

4. Based upon pro forma test-period operations, Monroe District's pro forma total operating expenses, after adjusting for known and measurable changes, are \$1,320,839.

5. Given that Monroe District is a water district, the use of debt service coverage methodology to determine its total revenue requirement is appropriate.

⁵ At page 1 of its report, Commission Staff states that it performed a limited review of Monroe District's test period operations for the calendar year ending December 31, 2010. This statement appears to be in error. Commission Staff's extensive work papers and Monroe District's application clearly indicate that the test period used was the calendar year ending December 31, 2009.

6. The debt service coverage provisions in Monroe District's long-term debt agreements with Rural Development ("RD") should be used to determine Monroe District's total revenue requirement.

7. Applying the debt service coverage of 1.2x, Monroe District's average debt service requirement with required coverage for the period from 2012 to 2014 is \$215,446.⁶

8. Based upon adjusted test-period operations, Monroe District requires revenues of \$1,504,411 from water sales, or \$314,606 more than its current rates produce, to meet its reasonable operating expenses and meet the debt service coverage provisions of its bonded debt.

9. Monroe District proposes to place into effect immediately the rates set forth in Appendix A and to place into effect one year later the rates set forth in Appendix B.

10. Based upon test-period normalized sales, the rates set forth in Appendix A will produce revenues from water sales of \$1,347,346.

11. Based upon test-period normalized sales, the rates set forth in Appendix B will produce revenues from water sales of \$1,504,411.

12. Monroe District's proposed rates that are set forth in Appendix A will generate sufficient revenues for Monroe District to meet its adjusted test-period expenses and the debt service requirements of its bonded debt.

13. "[I]n the absence of some showing that the service to the public will suffer by allowing . . . [a] utility to charge rates which will not produce a fair return, the utility

⁶ Staff Report at 2; *But see* Campbell, Myers & Rutledge, PLLC, *Independent Auditor's Report on Monroe County Water District* (Mar. 16, 2011) at 16 (reporting average debt for same period as \$219,676).

and not the Commission has the right of decision as to the rates it will charge so long as they do not exceed those which would produce a fair return as determined by the Commission.”⁷

14. Permitting Monroe District to charge the rates set forth in Appendix A will not result in a degradation of the quality of Monroe District’s service.

IT IS THEREFORE ORDERED that:

1. The findings and recommendations contained in the Commission Staff’s report are adopted and incorporated by reference into this Order as if fully set out herein.

2. The informal conference scheduled in this matter for November 28, 2011 is cancelled.

3. The hearing scheduled in this matter for December 8, 2011 is cancelled.

4. The rates set forth in Appendix A to this Order are approved for water service that Monroe District renders on and after the date of this Order.

5. The rates set forth in Appendix B to this Order are approved for water service that Monroe District renders on and after one year from the date of this Order.

6. Within 20 days of the date of this Order, Monroe District shall file revised tariff sheets with the Commission setting forth the rates approved in this Order.

⁷ *Utilities Operating Co. v. King*, 143 So.2d 854, 858, 45 PUR3d 439, 443 (Fla. 1962); see also Case No. 2006-00410, Application of Hardin County Water District No. 1 for a General Rate Adjustment Effective on and after December 2, 2006 (Ky. PSC Aug. 2, 2007); Case No. 98-398, Adjustment of Rates of the Kentucky Turnpike Water District and the Imposition of an Impact Fee (Ky. PSC June 30, 1999).

By the Commission

ENTERED ^{PA}
DEC 01 2011
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:

Stephane Bell for Jeff Duvall
Executive Director

Case No. 2011-00272

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2011-00272 DATED DEC 01 2011

The following rates are prescribed for the customers in the area served by Monroe County Water District. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of the Commission prior to the effective date of this Order.

5/8-Inch x 3/4-Inch

First 2,000 gallons	\$ 15.96 Minimum bill
Next 3,000 gallons	\$ 5.85 per 1,000 gallons
Next 5,000 gallons	\$ 4.97 per 1,000 gallons
Over 10,000 gallons	\$ 4.21 per 1,000 gallons

1-Inch Meter

First 5,000 gallons	\$ 33.51 Minimum bill
Next 5,000 gallons	\$ 4.97 per 1,000 gallons
Over 10,000 gallons	\$ 4.21 per 1,000 gallons

2-Inch Meter

First 20,000 gallons	\$100.46 Minimum bill
Over 20,000 gallons	\$ 4.21 per 1,000 gallons

Wholesale Water Rate	\$ 2.11 per 1,000 gallons
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APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2011-00272 DATED DEC 01 2011

The following rates are prescribed for the customers in the area served by Monroe County Water District, beginning one year after the date of this Order. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of the Commission prior to the effective date of this Order.

5/8-Inch x 3/4-Inch

First 2,000 gallons	\$ 17.15 Minimum bill
Next 3,000 gallons	\$ 6.90 per 1,000 gallons
Next 5,000 gallons	\$ 5.70 per 1,000 gallons
Over 10,000 gallons	\$ 4.80 per 1,000 gallons

1-Inch Meter

First 5,000 gallons	\$ 37.85 Minimum bill
Next 5,000 gallons	\$ 5.70 per 1,000 gallons
Over 10,000 gallons	\$ 4.80 per 1,000 gallons

2-Inch Meter

First 20,000 gallons	\$114.35 Minimum bill
Over 20,000 gallons	\$ 4.80 per 1,000 gallons

Wholesale Water Rate

	\$ 2.11 per 1,000 gallons
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Richard O Ross
General Manager
Monroe County Water District
205 Capp Harlan Road
Tompkinsville, KY 42167

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF WEBSTER COUNTY)
WATER DISTRICT FOR RATE ADJUSTMENT) CASE NO. 2015-00065
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 March 26, 2015, 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 paragraphs 2, 4, and 5 of the Commission's March 26, 2015 Order, Webster County Water District is required to file written comments regarding the findings of Staff no later than June 11, 2015.



Jeff Derouen
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATED **MAY 28 2015**

cc: Parties of Record

STAFF REPORT
ON
WEBSTER COUNTY WATER DISTRICT
CASE NO. 2015-00065

Webster County Water District ("Webster County") provides water service to approximately 1,994 customers residing in Webster County, Kentucky.¹ It also provides wholesale water service to the cities of Clay, Dixon, and Slaughters. On February 26, 2015, Webster County tendered an application to the Commission pursuant to 807 KAR 5:076 requesting to adjust its retail water service rates. It did not request to adjust its wholesale water service rates.

The requested retail rates would increase the monthly cost of 5,000 gallons of water purchased through a 5/8-inch x 3/4-inch meter from \$41.35 to \$45.31, an increase of \$3.96, or 9.6 percent. Webster County stated that these rates would increase its annual revenues by \$133,373, or 9.6 percent.

Staff performed a limited financial review of Webster County's operations to determine the reasonableness of the requested retail water service rates. 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. Insignificant or immaterial discrepancies were not pursued and were not addressed.

¹ *Annual Report of Webster County Water District to the Public Service Commission for the Calendar Year Ended December 31, 2014 ("2014 Annual Report")* at 5 and 27.

Staff's findings are summarized in this report. Ariel Turnbull and Jack Scott Lawless reviewed the calculation of Webster County's Overall Revenue Requirement. Eddie Beavers reviewed revenues and rate design.

Summary of Findings

1. Overall Revenue Requirement and Required Revenue Increase. Staff applied the Debt Service Coverage ("DSC") Method, as generally accepted by the Commission, to determine Webster County's revenue requirement. Using this method, Staff determined that Webster County's current retail water service rates produce revenues that are \$58,213, or 4.20 percent, above the revenue required from retail rates. Accordingly, Staff finds that no retail rate adjustment that would increase revenues is warranted at this time.

2. Depreciation. As discussed in detail in Attachment A, Staff found that Webster County should change the depreciable lives assigned to certain water assets for ratemaking and accounting purposes. Staff further finds that no adjustment to accumulated depreciation or retained earnings should be made to account for the retroactive effect of this recommended change in accounting estimate.

Pro Forma Operating Statement

In accordance with 807 KAR 5:076, Section 9, Webster County based its pro forma operations on the test year ended December 31, 2013.² The pro forma operating statement calculated and presented by Webster County as part of its application is shown below. As shown in Adjustment Col. A of this statement, Webster County

² 807 KAR 5:076, Section 9, requires that "[t]he reasonableness of the proposed rates shall be determined using a twelve (12) month historical test period, adjusted for known and measureable changes, that coincides with the reporting period of the applicant's annual report for the immediate past year."

proposed to adjust many of the test-year revenue and expense accounts to the amounts reported for the 12 months ended September 30, 2014, recognizing that significant changes had occurred to these accounts since the end of the test year. Also, as shown in Adjustment Col. B, Webster County proposed to eliminate non-recurring revenues from test-year operations.

Calculated by Webster County

	Test Year	Adjustments		Pro Forma
	2013	Col. A	Col. B	
Operating Revenue				
Sales of Water				
Metered Water Sales	\$ 1,348,318	\$ 44,797		\$ 1,393,115
Sales for Resale	299,813	73,695		373,508
Other Operating Revenue				
Forfeited Discounts	24,695	(3,651)		21,044
Miscellaneous Service Revenues	11,093	(751)		10,342
Rents from Water Property	20,330		\$ (15,121)	5,209
Other Water Revenues	101,479		(97,752)	3,727
Total Operating Revenue	1,805,728	114,090	(112,873)	1,806,945
Operating Expenses				
Operation and Maintenance Expenses				
Salaries and Wages - Employees	413,161	9,787		422,948
Salaries and Wages - Officers	18,000			18,000
Employee Pensions and Benefits	176,569	1,133		177,702
Purchased Power	149,347	25,250		174,597
Chemicals	177,296	(16,121)		161,175
Materials and Supplies	99,397	(18,401)		80,996
Contractual Services	15,394			15,394
Rents	306			306
Transportation	40,521	(1,760)		38,761
Insurance	32,180			32,180
Regulatory Commission Expense	3,342			3,342
Miscellaneous Expense	47,772	(6,669)		41,103
Total Operating and Maintenance Expenses	1,173,285	(6,781)		1,166,504
Depreciation Expense	530,495	43,129		573,624
Amortization Expense	20,907			20,907
Taxes Other Than Income	33,303	789		34,092
Total Operating Expenses	1,757,990	37,137	-	1,795,127
Net Operating Income	47,738	76,953	(112,873)	11,818
Plus: Interest Income	3,574			3,574
Income Available to Service Debt	\$ 51,312	\$ 76,953	\$(112,873)	\$ 15,392

By making the adjustments shown above in Col. A, Webster County essentially moved the test year forward to the 12 months ended September 30, 2014, but only for selected accounts. Staff agrees that moving the test year forward is appropriate in this instance, given the material changes to the accounts noted by Webster County; however, Staff finds that it is more appropriate to move the test year forward to the 12 months ending December 31, 2014, to coincide with Webster County's 2014 Annual Report, which was filed with the Commission subsequent to the filing of Webster County's application in this matter, but before the date of this report.

The 2014 test year provides the most current audited financial information as the basis for the rates the Commission will authorize for Webster County in this proceeding. While audited financial statements are not essential for ratemaking purposes, they are superior to unaudited financial statements. An audit ensures that proper accounting treatment has been applied to all transactions that are material to the financial statements taken as a whole; but no such assurance accompanies unaudited financial statements. Webster County's Pro Forma Operating Statement for the test-year ended December 31, 2014, as compiled by Staff, appears below.

Calculated by Staff

	Test Year 2014	Adjustment (Ref.)	Pro Forma
Operating Revenues			
Water Sales Revenue	\$ 1,748,353	\$ 9,732 (A)	\$ 1,758,085
Other Water Revenue	93,516	(40,612) (B)	52,904
Total Operating Revenues	<u>1,841,869</u>	<u>(30,880)</u>	<u>1,810,989</u>
Operating Expenses			
Operation and Maintenance Expenses			
Salaries and Wages - Employees	411,394	12,594 (C)	423,988
Salaries and Wages - Commissioners	18,000		18,000
Employee Pensions and Benefits	184,230		184,230
Purchased Power for Pumping	145,906		145,906
Chemicals	147,041		147,041
Materials and Supplies	74,030		74,030
Contractual Services - Accounting	8,000		8,000
Contractual Services - Other	8,368		8,368
Rental of Equipment	854		854
Transportation Expenses	33,177		33,177
Insurance	32,355		32,355
Advertising Expense	1,467		1,467
Miscellaneous Expense	34,162		34,162
Total Operation and Maintenance Expense	<u>1,098,984</u>	<u>12,594</u>	<u>1,111,578</u>
Taxes Other Than Income	33,718	3,473 (D)	37,191
Depreciation	553,597	(62,738) (E)	490,859
Total Operating Expenses	<u>1,686,299</u>	<u>(46,671)</u>	<u>1,639,628</u>
Net Operating Income	155,570	15,791	171,361
Interest Income	3,576		3,576
Gains for Disposition of Utility Property	6,000	(5,143) (F)	857
Income Available to Service Debt	<u>\$ 165,146</u>	<u>\$ 10,648</u>	<u>\$ 175,794</u>

(A) Billing Analysis Adjustment. Webster County provided a billing analysis with its application using a test year of 2013. During the course of this case, a change of the test year to 2014 was made. The revised Billing Analysis for 2014 resulted in total

normalized revenue from retail and wholesale water sales of \$1,758,084, resulting in an adjustment of \$9,731 over revenues as stated in the 2014 Annual Report.

(B) Nonrecurring Revenue. During the 2013 Test Year proposed by Webster County, Webster County reported payments received from an underground coal mining lease in the amount of \$20,330³ and from a class-action law suit settlement agreement in the amount of \$97,752.⁴ In its Application, Webster County proposed to eliminate this revenue from test-year operations stating that no coal mining payments “will be forthcoming beyond 2014” and that the class-action settlement revenue “was a one-time payment.”⁵

In the 2014 Test Year used by Staff, Webster County recognized coal lease revenue in the amount of \$50,765. It is Staff’s opinion that the most appropriate rate treatment would be to amortize the 2014 coal revenue over a five-year period.⁶ This treatment for ratemaking purposes is consistent with the Commission’s common practice of amortizing test-year expenses that are non-recurring. Accordingly, Staff

³ On February 11, 2011, Webster County entered into an underground coal mining lease with Allied Resources, Inc. (“Allied”), pursuant to which Allied would pay Webster County royalties for any coal removed from underneath Webster County’s property. Although the lease had an original term of ten years, Allied mined coal from Webster County’s property only during the years 2013 and 2014.

⁴ Atrazine is a weed killer produced by Syngenta AG. On October 23, 2012, the federal court approved a class-action lawsuit settlement agreement pursuant to which Syngenta AG paid out a total of \$105 million to water providers who had demonstrated that their water supply had been contaminated with Atrazine. Webster County received a one-time payment in the amount of \$97,752 for its share of the settlement.

⁵ Application, Exhibit 4, Schedule of Adjusted Operations, Notes 1 and 2.

⁶ Generally, when there is no evidence to support an alternative amortization period, the Commission amortizes an intangible regulatory asset or liability identified in a rate proceeding over the anticipated life of the rates approved in that proceeding. This life is generally based on the frequency of the utility’s historic rate case filings, but generally does not exceed five years, the longest anticipated life of any water service rate authorized by the Commission. Since Webster County’s most recent rate application was filed 17 years ago in 1998, Staff chose a five-year amortization period.

decreased the 2014 Test Year coal revenue by \$40,612 to account for its five-year amortization as calculated below.

2014 Coal Revenue	\$ 50,765
Divide by: 5 Years	<u>5</u>
Total Amortization	10,153
Less: Test Year	<u>(50,765)</u>
Adjustment	<u><u>\$ (40,612)</u></u>

(C) Salaries and Wages – Employees. During the 2014 test year, Webster County reported \$411,394 for Salaries and Wages – Employees expense. During its review, Staff discovered that each Webster County employee received a \$.55 per hour wage rate increase that became effective on January 1, 2015. As shown in the table below, Staff determined that test-year wages expense should be increased by \$12,594 to account for this increase.

	Current Pay Rate	Regular Hours	Overtime at Regular Rate	Overtime Hours (x1.5)	On Call Payments	Pro Forma
Employee 1	\$ 35.86	2,040				\$ 73,154
2	25.81	2,040				52,652
3	20.81	2,058		74		45,137
4	18.25	2,062		44		38,836
5	20.64	2,080	33	171	\$ 700	49,606
6	20.57	2,080	41	125	780	48,266
7	19.63	2,070		111	780	44,682
8	17.93	2,080		135	680	41,605
9	14.00	2,051		56	160	<u>30,050</u>
Pro Forma Wages						423,988
Less: Test Year Wages						<u>(411,394)</u>
Increase						<u><u>\$ 12,594</u></u>

(D) Taxes Other Than Income – Payroll Taxes. Below, Staff calculated Webster County’s pro forma payroll taxes by multiplying the total taxable wages (including Commissioner’s pay) by the payroll tax rate. Accordingly, Staff increased payroll tax expense by \$3,473.

	Pro Forma
Pro Forma Wages	\$ 423,990
Commissioner's Salaries	<u>18,000</u>
Total Wages Subject to Payroll Taxes	441,990
Times: Tax Rate	<u>7.65%</u>
Payroll Tax Expense	33,812
Less: Test Year	<u>(30,339)</u>
Adjustment	<u><u>\$ 3,473</u></u>

(E) Depreciation. Webster County reported \$553,597 for test-year depreciation expense. Staff reviewed all the lives assigned to Webster’s County’s assets used. A summary of this review is found at Attachment A of this report. Based on this review, Staff determined that Webster County’s test-year depreciation should be reduced by \$62,738, as calculated below:

Asset	Original Cost	Staff Useful Life	Pro Forma
Structures and Improvements - Source of Supply	\$ 63,366	37.5	\$ 1,690
Structures and Improvements - Water Treatment	46,719	37.5	1,246
Structures and Improvements - Office	201,833	37.5	5,382
Structures and Improvements - River Intake Structures	5,348,163	37.5	142,618
Structures and Improvements - River Intake	243,074	40	6,077
Structures and Improvements - Pumping	516,232	37.5	13,766
Electric Pumping Equipment	185,341	20	9,267
Reservoirs and Standpipes - Tank Painting	219,705	15	14,647
Transmission and Distribution Mains	7,560,269	50	151,205
Meters and Meter Installations	632,213	45	14,049
Hydrants	6,610	40	165
Transportation Equipment	100,776	7	14,397
Pro Forma			374,509
Less: Test-Year Depreciation on Assets Listed in the Adjustment			<u>(437,247)</u>
Decrease			<u>\$ (62,738)</u>

(F) Gain on Sale of Property. During the test year, Webster County recognized a \$6,000 gain on the sale of a service vehicle. Being an asset of a depreciable class, the USoA requires this gain be accounted for using the accumulated depreciation account.⁷ Through this accounting treatment, the depreciable basis of the replacement asset is adjusted to include the amount of the gain. The gain would then be recognized as a component of depreciation expense recorded on the replacement asset in future periods.

In this case, Staff amortized the gain over the seven-year depreciable life assigned to the new service vehicle. This method has the same effect on revenue

⁷ USoA at 42, Account 180.1. B.

requirements as the method prescribed by the USoA. To account for the amortization, the amount of the gain recognized in the test year was reduced by \$5,143.

Gain on Sale of Property	\$ 6,000
Divide by: 7 Years	<u>7</u>
Amortization	857
Less: Test Year	<u>(6,000)</u>
Adjustment	<u>\$ (5,143)</u>

Overall Revenue Requirement and Required Revenue Increase

Webster County and Staff calculated Webster County's overall revenue requirement and required revenue increase using the DSC Method that is generally accepted by the Commission. 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;⁸ 3) the average annual principal and interest payments on all long-term debts, and 4) working capital that is in addition to depreciation expense. A comparison of Webster County's and Staff's calculations of Webster County's Overall Revenue Requirement and Required Revenue Increase is shown below.

⁸ The Kentucky Supreme Court has held that the Commission must permit a water district to recover its depreciation expense through its rates for service to provide internal funds to be used for renewing and replacing assets. See *Public Serv. Comm'n of Kentucky v. Dewitt Water Dist.*, 720 S.W.2d 725, 728 (Ky.1986). 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).

	Webster County WD 2013 Test Year	Staff 2014 Test Year
Pro Forma Operating Expenses	\$ 1,795,127	\$ 1,639,628
Plus: Average Annual Principal and Interest Payments	134,168	106,892
Additional Working Capital	14,597	10,689
	<hr/>	<hr/>
Overall Revenue Requirement	1,943,892	1,757,209
Less: Other Operating Revenue	(40,322)	(52,904)
Interest Income	(3,574)	(3,576)
Wholesale Water Revenue	(373,508)	(373,676)
Amortization of Gain on Sale of Asset		(857)
	<hr/>	<hr/>
Revenue Required From Retail Rates	1,526,488	1,326,196
Less: Pro Forma Present Rate Retail Water Revenues	(1,393,115)	(1,384,409)
	<hr/>	<hr/>
Revenue Deficiency/(Sufficiency)	\$ 133,373	\$ (58,213)
Percent Increase	<u>9.6%</u>	<u>-4.20%</u>

1. Average Principal and Interest Payments. Webster County currently has two outstanding loans payable to the Kentucky Infrastructure Authority (“KIA”). In its Application, Webster County stated that it was requesting recovery of the three-year annual average debt payments that will become due in the years 2015 to 2017 in the amount of \$134,168. It did not provide the calculation of the amount requested.

As discussed in footnote 6, it is Staff’s opinion that the rates authorized by the Commission in this proceeding will likely have a five-year life. To match the debt payments included in Webster County’s revenue requirement with the life of the rates, Staff included the five-year average debt principal and interest payments that will become due during 2015 through 2019. As shown below, Staff’s calculation accounts for the final payment on the 1995J KIA loan that will occur in December 1, 2016.

Year	Annual Debt Payment
2015	\$ 135,673
2016	133,001
2017	90,507
2018	88,614
2019	<u>86,664</u>
Total	534,458
Divide by: 5 years	<u>5</u>
Average Annual Principal and Interest Payments	<u>\$ 106,892</u>

2. Additional Working Capital. The DSC method, as historically applied by the Commission, includes an allowance for additional working capital that is in addition to the amount provided through recovery of Depreciation Expense. The additional working capital is set equal to the minimum net revenues required by Webster County's lenders that are above its average annual debt payments. As shown below, Staff calculated Webster County's allowance for additional working capital to be \$10,689. Staff included this amount in the calculation of Webster County's Overall Revenue Requirement.⁹

⁹ KIA requires that Webster County assess rates for water service that produce net revenues that are equal to at least 110 percent of the average annual principal and interest payments. The DSC ratio measures an entity's ability to pay its cash-related operating expenses and to pay debt principal and interest. KIA calculates the ratio by dividing net revenues by the entity's average annual debt principal and interest payments. Net revenues are equal to total gross 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 and without including the additional allowance for working capital in Webster County's Overall Revenue Requirement.

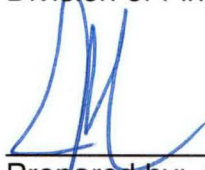
	With Additional Working Capital	Without Additional Working Capital
Overall Revenue Requirement	\$ 1,757,209	\$ 1,746,519
Less: Operating and Maintenance Expense	(1,111,578)	(1,111,578)
Taxes Other Than Income	(37,191)	(37,191)
	<hr/>	<hr/>
Net Revenues	608,440	597,750
Divided by: Average Annual Debt Payments	106,892	106,892
	<hr/>	<hr/>
DSC Ratio	569%	559%

Average Annual Principal and Interest	\$ 106,892
Times: DSC Coverage Ratio	<u>110%</u>
Total Net Revenues Required	117,581
Less: Average Annual Principal and Interest Payments	<u>(106,892)</u>
Additional Working Capital	<u>\$ 10,689</u>

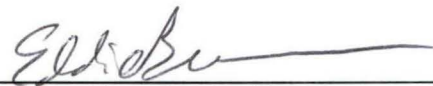
Signatures



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ATTACHMENT A
 STAFF REPORT, CASE NO. 2015-00065
 WEBSTER COUNTY WATER DISTRICT
 ENGINEERING DIVISION'S
 ANALYSIS OF ASSET SERVICE LIVES

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

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

Asset Classification	Current	Staff Recommended	NARUC Study
E-Structure & Improve-Source of Supply (304-0002): 304.2 Structures & Improve, Pumpsite Improvements, Pumpstation-St, Pumpstation-CD.	30-50	37.5	35-40
F-Structure & Improve-Water Treatment (304-0003): Improvements, Interconnect Project, Phase III Upgrade	20, 30	37.5	35-40
G-Structures & Improvements-Office (304-0005): Building, New Office Building, Improvements	10-30	37.5	35-40
I-Structures & Improve-River Intake (304-0007): River Intake Structure, Plant Structure	50	37.5	35-40
I-Structures & Improve-River Intake (304-0007): Raw Water Intake, River Intake/Lake, River and Other Intakes	50	40	35-45
J-Structures & Improve-Pumping (304-0007): Pump Station-S, C, & Ritz Road	30	37.5	35-40

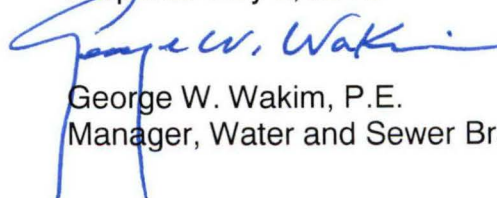
Asset Classification	Current	Staff Recommended	NARUC Study
L-Electric Pumping Equipment (311-0002): Electric Pumping Equipment, Equipment, Pumping Equipment, Pump & Intake, Pump & Labor, High Service Pump, Motor Pumping Equipment, 60 & 30 HP Motors, Pump Repairs	10, 50	20	20
N-Reservoirs and Standpipes (330-0004): Tank Painting, Painting-300,000 Elevated Tank	20,50	15	*
O-Trans & Distribution Mains (311-0004)	40,50	50	50-75
P-Meters & Installations (334-0004)	10	45	40-50
Q-Hydrants (335-0004)	10,40	40	40-60
T-Transportation Equipment (341-0005)	5	7	7

*Tank painting costs are normally amortized rather than depreciated. As such, service lives of tank paintings are not represented in the NARUC Study.

A portion of the asset groups O and Q have service lives within the NARUC Study range. Adjusting the service lives of the remaining assets in these groups with service lives outside the NARUC Study range to the same service lives of the rest of the assets in these groups, is reasonable.

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

Prepared May 8, 2015



George W. Wakim, P.E.
 Manager, Water and Sewer Branch

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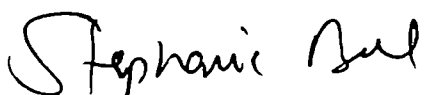
COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ALTERNATIVE RATE ADJUSTMENT FILING OF) CASE NO.
HARRISON COUNTY WATER ASSOCIATION) 2015-00308

NOTICE OF FILING OF COMMISSION STAFF REPORT

Notice is hereby given that, in accordance with the Commission's Order of October 12, 2015, the attached report containing the findings of Commission Staff regarding the Applicant's proposed rate adjustment has been filed in the record of the above-styled proceeding. Pursuant to paragraphs 2, 3, and 5 of the Commission's October 12, 2015 Order, Harrison County Water Association is required to file written comments regarding the findings of Commission Staff no later than December 30, 2015.



Jeff Derouen
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATED DEC 16 2015

cc: Parties of Record

STAFF REPORT
ON
HARRISON COUNTY WATER ASSOCIATION
CASE NO. 2015-00308

Harrison County Water Association ("Harrison County") provides water service to approximately 5,647 customers residing in Bourbon, Harrison, Pendleton, and Scott counties, Kentucky.¹ On September 9, 2015, Harrison County tendered an application to the Commission pursuant to 807 KAR 5:076 requesting to increase its water service rates in order to generate additional annual water sales revenue in the amount of \$255,708, an 11.06 percent increase to pro forma present rate revenues of \$2,312,979. The requested water service rates would increase the cost of 5,000 gallons of water purchased through a 5/8-inch x 3/4-inch meter from \$35.65 to \$39.58 per month, an increase of \$3.93, or 11.02 percent.

In support of its requested rates, Harrison County provided financial exhibits with its Application that were based on the test year ended December 31, 2014. In its application, Harrison County included several adjustments to test-year expenses. Harrison County also provided with its application a billing analysis adjusting test-year revenue that included the increase to water sales from a Purchased Water Adjustment that occurred in January of 2015. These exhibits are shown below in condensed form and indicate that a revenue increase of \$255,707, or 11.06 percent, is warranted.

¹ *Annual Report of Harrison County Water Association to the Public Service Commission for the Calendar Year Ended December 31, 2014 ("2014 Annual Report")* at 12 and 53.

Overall Revenue Requirement and Required Revenue Increase

Pro Forma Operating Expenses	\$ 2,549,625
Plus: Average Annual Principal and Interest Payments on Current Debts	93,869
Additional Working Capital	<u>18,774</u>
Overall Revenue Requirement	2,662,268
Less: Other Operating Revenue	(75,314)
Interest Income	<u>(18,268)</u>
Revenue Required From Rates	2,568,686
Less: Pro Forma Present Rate Service Revenues	<u>(2,312,979)</u>
Required Revenue Increase	<u>\$ 255,707</u>
Percent Increase	<u>11.06%</u>

Staff performed a limited financial review of Harrison County's operations for the test year ended December 31, 2014, to determine the reasonableness of Harrison County's requested water rates. 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. Insignificant or immaterial discrepancies were not pursued and were not addressed.

Staff's findings are summarized in this report. Ariel Miller reviewed the calculation of Harrison County's Overall Revenue Requirement. Jason Green reviewed reported revenues and rate design.

Summary of Findings

1. Overall Revenue Requirement and Required Revenue Increase. Staff found that Harrison County can justify a total Overall Revenue Requirement of \$2,681,192, and that a water revenue increase of \$252,493, or 10.81 percent, above

the pro forma present rate water revenues of \$2,335,117 calculated by Staff, is necessary to generate the Overall Revenue Requirement.

2. Water Rates. The Commission has previously found that the allocation of a revenue increase evenly across the board to a utility's current rate design is appropriate when there has been no evidence entered into the record demonstrating that this method is unreasonable. Finding no such evidence in this case, Staff followed the method proposed by Harrison County and allocated the \$252,493 revenue increase evenly across the board to Harrison County's current rate design.

3. Depreciation. As set out in Attachment B of this report, Staff finds that the depreciable lives assigned to certain assets should be changed for ratemaking purposes and that these lives should be used for accounting purposes in all future reporting periods. These recommended depreciable lives better match the life expectancy of Harrison County's assets and will better match expenses to revenues. No adjustment to accumulated depreciation and retained earnings should be made to account for the effect of this change in accounting estimate.

Pro Forma Operating Statement

Harrison County's Pro Forma Operating Statement based on test-year operations ended December 31, 2014, as determined by Staff, is shown below:

	Test Year	Adjustment (Ref.)	Pro Forma
Operating Revenues			
Water Sales Revenue	\$ 2,231,628	\$ 17,741 (A)	
		85,748 (B)	\$ 2,335,117
Other Water Revenue	44,834		44,834
Total Operating Revenues	2,276,462	103,489	2,379,951
Operating Expenses			
Operation and Maintenance Expenses			
Salaries and Wages - Employees	360,968	10,829 (C)	371,797
Salaries and Wages - Commissioners	12,600		12,600
Employee Pensions and Benefits	159,889		159,889
Purchased Water	1,109,568	80,862 (D)	
		(74,283) (E)	1,116,147
Purchased Power for Pumping	84,010	(5,242) (E)	78,768
Materials and Supplies	79,852		79,852
Contractual Services - Accounting	17,400		17,400
Contractual Services - Legal	2,804		2,804
Contractual Services - Other	90,808		90,808
Transportation Expenses	48,519		48,519
Insurance	31,606		31,606
Bad Debt	18,559		18,559
Miscellaneous Expense	43,328		43,328
Total Operation and Maintenance Expenses	2,059,911	12,166	2,072,077
Taxes Other Than Income	32,671	828 (C)	33,499
Depreciation	466,323	(3,350) (F)	462,973
Total Operating Expenses	2,558,905	9,644	2,568,549
Net Operating Income	(282,443)	93,845	(188,598)
Interest Income	18,268		18,268
Nonutility Income	30,480		30,480
Income Available to Service Debt	\$ (233,695)	\$ 93,845	\$ (139,850)

(A) Billing Analysis Adjustment. Harrison County provided a billing analysis showing the gallons of water billed to retail customers during the test year.² Applying the water service rates that were in effect during the test year to the water sales shown in the billing analysis, Staff determined that a billing analysis adjustment is appropriate that increases test-year revenues by \$17,741. Staff recalculated test-year normalized revenues from retail sales to be \$2,335,117.

(B) Purchased Water Adjustment. Subsequent to the test year, the Commission, pursuant to 807 KAR 5:068, authorized Harrison County to increase its water rates in order to pass through the wholesale water rate increase of the city of Cynthiana.³ By applying the retail rates authorized by the Commission to the applicable water sales shown in the billing analysis provided in Harrison County's supplemental filing, Staff determined that an adjustment of \$85,748 should be made to increase test-year revenues.

(C) Salaries and Wages. During the test year, Harrison County reported \$360,968 for test-year salaries and wages expense. In its application, Harrison County requested to increase this amount by \$10,829 to account for a 3 percent wage rate increase that was approved by Harrison County's Board of Directors on March 18, 2015, for all employees and became effective on April 1, 2015. Further, Harrison County proposed to increase test-year Taxes Other Than Income by \$828 to account

² On October 6, 2015, Harrison County supplemented its application with a revised billing analysis that included the increase to sales revenue from a Purchased Water Adjustment that occurred in January 2015.

³ Case No. 2015-00029, *Purchased Water Adjustment Filing of Harrison County Water Association* (Ky. PSC Jan. 23, 2015).

for the increase to test-year payroll taxes that will result from the wage rate increase. Staff agrees with the adjustments proposed by Harrison County and increased test-year expenses accordingly.

(D) Changes to Wholesale Purchase Water Rates. During the test year, Harrison County purchased wholesale water for resale from Kentucky American Water Company, Nicholas County Water District, and the cities of Cynthiana, Paris, and Millersburg. Effective January 1, 2015, the city of Cynthiana increased the wholesale water rate charged to Harrison County from \$2.41 per thousand gallons to \$2.63 per thousand gallons.

In its Application, Harrison County proposed to increase test-year Purchased Water expense by \$80,862 to account for effects of the wholesale water rate increase. Staff agrees with Harrison County's adjustment and increased test-year Purchased Water expense by \$80,862.

(E) Water Loss. Pursuant to 807 KAR 5:066, Section (6)3, Harrison County's water loss is limited to 15 percent for ratemaking purposes unless it can demonstrate that an alternative level is reasonable. During the test year, Harrison County reported water loss at 21.24 percent, or 6.24 percent above the amount allowed. Harrison County did not attempt to demonstrate that the amount of excess water loss is reasonable. Instead, it proposed to decrease test-year purchased water expense and its test-year purchased power by \$74,283 and \$5,242, respectively, to remove the cost of the excess water loss. Staff agrees with the proposed adjustments and reduced test-year purchased water and purchased power by \$74,283 and \$5,242, respectively.

(F) Depreciation. Harrison County reported \$466,323 for test-year depreciation expense. This amount was calculated using the straight-line method, pursuant to which the plant's original cost is divided by its estimated useful life. A summary of Staff's review of the estimated useful lives is found at Attachment B of this report. To account for the effects of the changes to the lives recommended in Attachment B, Staff decreased test-year depreciation by \$3,350, as calculated below:

Asset	Original Cost	Divide by: Staff Useful Life	Pro Forma Depreciation
328 - Other Pumping Plant	\$ 19,589	25	\$ 784
331 - Structures and Improvements	4,700	35	134
341 - Structures and Improvements	1,050	35	30
342 - Reservoirs and Tanks	29,767	30	992
343 - Transmission and Distribution Mains	163	50	3
346 - Meters	3,999	35	114
391 - Office Furniture and Equipment	1,524	20	76
392 - Transportation Equipment	6,549	7	936
394 - Tools, Shop, & Garage Equipment	66,213	15	4,414
396 - Power Operated Equipment	2,932	15	195
397 - Communications Equipment	59,240	10	<u>5,924</u>
Pro Forma			13,603
Less: Test-Year Depreciation on Assets Listed in the Adjustment			<u>(16,953)</u>
Decrease			<u>\$ (3,350)</u>

Overall Revenue Requirement and Required Revenue Increase

Harrison County and Staff used the Debt Service Coverage (“DSC”) method, as generally accepted by the Commission, to calculate the Overall Revenue Requirement. 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;⁴ 3) the average annual principal and interest payments on all long-term debts; and 4) working capital that is in addition to depreciation expense.

A comparison of Harrison County’s and Staff’s calculation of the Overall Revenue Requirement and Required Revenue Increase is shown below:

⁴ The Kentucky Supreme Court has held that the Commission must permit a water district to recover its depreciation expense through its rates for service to provide internal funds to be used for renewing and replacing assets. *See Public Serv. Comm’n of Kentucky v. Dewitt Water Dist.*, 720 S.W.2d 725, 728 (Ky.1986). 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).

	Harrison County	Staff
Pro Forma Operating Expenses	\$2,549,625	\$ 2,568,549
Plus: Average Annual Principal and Interest Payments on Current Debts Additional Working Capital	93,869 18,774	93,869 18,774
Overall Revenue Requirement	2,662,268	2,681,192
Less: Other Operating Revenue	(75,314)	(44,834)
Interest Income	(18,268)	(18,268)
Non-Operating Revenue		(30,480)
Revenue Required From Rates	2,568,686	2,587,610
Less: Pro Forma Present Rate Service Revenues	(2,312,979)	(2,335,117)
Required Revenue Increase	\$ 255,707	\$ 252,493
Percent Increase	11.06%	10.81%

1. Average Principal and Interest Payments on Current Debts. Harrison County currently has outstanding loans payable to the United States Department of Agriculture Rural Development ("RD"). In its Application, Harrison County requested recovery of the three-year average principal and interest payments that will become due in 2016, 2017, and 2018 on all loans that were used to finance the cost of water system improvement projects. Staff agrees that the \$93,869 requested by Harrison County represents, in all material respects, the average annual debt payments that will be made on Harrison County's long-term debts in each year that the water rates approved by the Commission in this proceeding will be in effect.

2. Additional Working Capital. The DSC method, as historically applied by the Commission, includes an allowance for additional working capital that is equal to the minimum net revenues required by Harrison County's lenders that are above its average annual debt payments. In this case, RD requires that Harrison County charge rates that produce net revenues that are at least 120 percent of its average annual bond payments. Following the Commission's historical practice, Staff calculated Harrison County's allowance for additional working capital to be \$18,774, as shown below.⁵ Staff included this amount in the calculation of Harrison County's Overall Revenue Requirement.

⁵ Inclusion of the additional working capital in Harrison County's revenue requirement is not necessary for it to earn revenues that meet the minimum DSC ratio required by its lenders. As depreciation is a noncash item, it is excluded from the ratio calculation, which is actually a measure of cash flow. As shown below, Harrison County's minimum DSC ratio is met with or without the inclusion of additional working capital.

	With Additional Working Capital	Without Additional Working Capital
Overall Revenue Requirement	\$ 2,681,192	\$ 2,662,419
Less: Operating and Maintenance Expense	(2,072,077)	(2,072,077)
Taxes Other Than Income	(33,499)	(33,499)
	<hr/>	<hr/>
Net Revenues	575,616	556,843
Divided by: Average Annual Debt Payments	93,869	93,869
	<hr/>	<hr/>
DSC Ratio	613%	593%
	<hr/>	<hr/>

Average Annual Principal and Interest	\$ 93,869
Times: DSC Coverage Ratio	<u>120%</u>
Total Net Revenues Required	112,643
Less: Average Annual Principal and Interest Payments	<u>(93,869)</u>
Additional Working Capital	<u>\$ 18,774</u>

Signatures

Ariel Miller

Prepared by: Ariel Miller
 Financial Analyst, Water and Sewer
 Revenue Requirements Branch
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Jason Green

Prepared by: Jason Green
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ATTACHMENT A

STAFF REPORT CASE NO. 2015-00308
RATES CALCULATED BY STAFF

Monthly Rates

5/8- X 3/4-Inch Meter

First 2,000 Gallons	\$18.63 Minimum Bill
Next 1,000 Gallons	6.96 Per 1,000 Gallons
Next 2,000 Gallons	6.78 Per 1,000 Gallons
Next 45,000 Gallons	6.23 Per 1,000 Gallons
Over 50,000 Gallons	5.30 Per 1,000 Gallons

3/4-Inch Meter

First 3,000 Gallons	\$25.59 Minimum Bill
Next 2,000 Gallons	6.78 Per 1,000 Gallons
Next 45,000 Gallons	6.23 Per 1,000 Gallons
Over 50,000 Gallons	5.30 Per 1,000 Gallons

1-Inch Meter

First 5,000 Gallons	\$39.15 Minimum Bill
Next 45,000 Gallons	6.23 Per 1,000 Gallons
Over 50,000 Gallons	5.30 Per 1,000 Gallons

1 1/2-Inch Meter

First 10,000 Gallons	\$70.30 Minimum Bill
Next 40,000 Gallons	6.23 Per 1,000 Gallons
Over 50,000 Gallons	5.30 Per 1,000 Gallons

2-Inch Meter

First 15,000 Gallons	\$101.45 Minimum Bill
Next 35,000 Gallons	6.23 Per 1,000 Gallons
Over 50,000 Gallons	5.30 Per 1,000 Gallons

Bulk Loading Station

\$7.57 Per 1,000 Gallons

ATTACHMENT B

STAFF REPORT, CASE NO. 2015-00308
HARRISON COUNTY WATER ASSOCIATION

ENGINEERING DIVISION'S
ANALYSIS OF ASSET SERVICE LIVES
FOR WATER SYSTEMS

Historically, the Commission has relied on the *Depreciation Practices for Small Water Utilities* by the National Association of Regulatory Utility Commissioners ("NARUC"), Washington, D. C., August 15, 1979 ("Study"), page 11, to evaluate the reasonableness of a utility's depreciation practices. This Study outlines expected service life ranges for various asset groups designed, installed, and maintained in accordance with good water utility practices. Typically, an adjustment is made when the Commission finds that a utility is proposing to use a service life that falls outside of the range, while service lives falling within these ranges are generally accepted.

Certain asset service lives submitted in this case were found to be outside the ranges in the NARUC Study or guidelines previously adopted by the Commission. The following table identifies the service lives submitted outside the Commission's established guidelines:

NARUC Account Number	Type of Asset	NARUC Average Service Life	Submitted Service Life/Lives	Recommended Staff Report Service Life/Lives
328	Other Pumping Plant	25	38, 20	25
331	Structures and Improvements	35-40	20	35
341	Structures and Improvements	35-40	30	35
342	Reservoirs and Tanks	30-60	20, 30	30
343	Transmission and Distribution Mains	50-75	30, 50, 63	50, 63
346	Meters	35-45	20, 35	35
391	Office Furniture and Equipment	20-25	23, 7, 5	23, 20
392	Transportation Equipment	7	7, 5	7
394	Tools, Shop & Garage Equipment	15-20	7, 13, 10	15
396	Power Operated Equipment	10-15	20, 30	15
397	Communications Equipment	10	20, 30, 10, 18, 7	10

NOTE: Some Types of Assets had more than one service life submitted. In these cases, service life/lives that were within the NARUC range shall remain unchanged.

The Recommended Staff Report Service Life/Lives shall be used for the purpose of the Commission Staff Report unless specific and verifiable evidence supports using alternative service lives.

Prepared December 16, 2015

Mark Rasche, P.E.
Manager, Water and Sewer Branch

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2167 US 27 South
Cynthiana, KY 41031

*Mr. Danny D Northcutt
Manager
Harrison County Water Association, Inc.
P. O. Box 215
Cynthiana, KY 41031

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ALTERNATIVE RATE ADJUSTMENT FILING OF) CASE NO.
HARRISON COUNTY WATER ASSOCIATION) 2015-00308

ORDER

Harrison County Water Association (“Harrison County”) has applied to adjust its water service rates. By this Order, the Commission approves water service rates that will produce additional annual water sales revenues in the amount of \$223,057, a 9.14 percent increase to pro forma present rate water sales revenues in the amount of \$2,440,370. A typical residential customer’s bill will increase from \$36.58 to \$39.92 per month, an increase of \$3.34, or 9.13 percent.¹ The approved rates are shown in Appendix B to this Order.

Harrison County tendered its application (“Application”) pursuant to 807 KAR 5:076 on September 9, 2015. In its Application, Harrison County requested rates that it stated would produce \$255,707 in additional annual revenues, an 11.06 percent increase to water sales revenues from current rates in the amount of \$2,312,979. After curing filing deficiencies, the Application was considered filed on September 17, 2015.

On October 12, 2015, the Commission issued a procedural order to ensure the orderly review of Harrison County’s application. Pursuant to the Order, Commission Staff (“Staff”) issued a report on December 16, 2015, finding that Harrison County’s adjusted test-year operations for the year ended December 31, 2014, support a revenue

¹ A typical residential customer is assumed to purchase 5,000 gallons of water per month through a 5/8-inch x 3/4-inch meter.

increase in the amount of \$252,493, a 10.81 percent increase to water sales revenues from current rates in the amount of \$2,335,117. Staff also found that Harrison County should change the depreciable lives assigned to certain assets when calculating depreciation for ratemaking and accounting purposes.

On December 29, 2015, Harrison County filed responses to Staff's report wherein it accepted Staff's findings and requested that no informal conference or hearing be held; however, Harrison County requested that the Commission modify the rates calculated in the Staff's report to account for the effects of the Commission's Order in Case No. 2016-00028 ("PWA Order"), which approved a purchased water adjustment factor of \$0.25 per 1,000 gallons for services rendered on and after January 1, 2016.²

Having considered the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. Except where they conflict with the findings contained in this Order, the findings contained in Staff's report are supported by the evidence of record, are reasonable, and should be adopted as if fully set out herein.

2. On January 1, 2016, subsequent to the issuance of Staff's report, the city of Cynthiana ("Cynthiana") increased the wholesale water rate that it charges to Harrison County.

3. On January 5, 2016, Harrison County filed an application with the Commission pursuant to 807 KAR 5:068, Purchased Water Adjustment ("PWA") for Water Districts and Associations, requesting authority to increase its water service rates

² Case No. 2016-00028, *Purchased Water Adjustment Filing of Harrison County Water Association* (Ky. PSC Jan. 29, 2016).

in order to pass through to its customers the Cynthiana wholesale water rate increase. The Commission established Case No. 2016-00028 to review Harrison County's PWA application.

4. After reviewing the PWA application, the Commission entered the PWA Order in Case No. 2016-00028 authorizing Harrison County to increase its rates for services rendered on and after January 1, 2016, for recovering the additional cost of wholesale water.

5. Harrison County's pro forma operations, as presented in Staff's report, should be adjusted to account for the additional water service revenue that will be generated by the rates approved by the PWA Order entered in Case No. 2016-00028 in order to account for the increase to Harrison County's purchase water expense that will result from Cynthiana's wholesale rate increase.

6. As shown in Appendix A to this Order, by applying the rates authorized in the PWA Order in Case No. 2016-00028 to the billing determinants shown in the billing analysis provided by Harrison County in this proceeding,³ the Commission finds that Harrison County's pro forma present rate water sales revenues is \$2,440,370, requiring a \$105,253 increase to the pro forma amount shown in Staff's report.

7. After accounting for the January 1, 2016 increase to Cynthiana's wholesale rate, Harrison County's total pro forma purchased water expense is

³ See Harrison County's request for deviation filing (Ky. PSC Oct. 6, 2015).

\$1,271,293;⁴ however, \$79,329⁵ of this amount is attributed to the cost of water loss that exceeds the 15 percent allowed for ratemaking purposes by 807 KAR 5:066, Section 6.⁶

After removing the cost of excess water loss, Harrison County's pro forma purchased water expense that is recoverable through rates is \$1,191,964,⁷ requiring a \$75,817⁸ increase to the pro forma amount shown in Staff's report.

4

Test-Year Gallons Purchased from Cynthiana	367,556,400
Times: Current Rate Per Thousand Gallons	<u>\$ 2.85</u>
Pro forma Purchase Water Expense Paid to Cynthiana	1,047,536
Plus: Test-Year Purchased Water Expense Paid to Other Providers	<u>223,757</u>
Total Pro Forma Purchased Water Expense	<u>\$ 1,271,293</u>

5

Total Pro Forma Purchased Water Expense	\$ 1,271,293
Times: Percentage of Excess Water Loss	<u>6.24%</u>
Cost of Excess Water Loss	<u>\$ 79,329</u>

⁶ As discussed on page 6 of Staff's report, Harrison County's test-year water loss was 21.24 percent, or 6.24 percent above the amount allowed for ratemaking purposes.

7

Total Pro Forma Purchased Water Expense	\$ 1,271,293
Less: Cost of Excess Water Loss	<u>(79,329)</u>
Recoverable Portion of Pro Forma Purchased Water Expense	<u>\$ 1,191,964</u>

8

Recoverable Portion of Pro Forma Purchased Water Expense	\$ 1,191,964
Less: Amount Stated in Staff Report	<u>(1,116,147)</u>
Increase	<u>\$ 75,817</u>

8. Harrison County's pro forma operating statement, as amended to account for the additional increase to water sales revenues and purchase water expense, appears below:

	<u>Pro Forma Staff Report</u>	<u>Additional Adjustments</u>	<u>Amended Pro Forma</u>
Operating Revenues			
Water Sales	\$2,335,117	\$ 105,253	\$2,440,370
Other Operating Revenue	44,834		44,834
	<u>2,379,951</u>	<u>105,253</u>	<u>2,485,204</u>
Total Operating Revenue			
Operating Expenses			
Operation and Maintenance	2,072,077	75,817	2,147,894
Depreciation	462,973		462,973
Taxes Other Than Income	33,499		33,499
	<u>2,568,549</u>	<u>75,817</u>	<u>2,644,366</u>
Total Operating Expenses			
Net Operating Income	(188,598)	29,436	(159,162)
Interest Income	18,268		18,268
Nonutility Income	30,480		30,480
	<u>30,480</u>	<u>29,436</u>	<u>30,480</u>
Income Available to Service Debt	<u>\$ (139,850)</u>	<u>\$ 29,436</u>	<u>\$ (110,414)</u>

9. Harrison County currently has outstanding bond issuances payable to the United States Department of Agriculture Rural Development. The three-year average principal and interest payments for the years 2016 through 2018 on these bonds is \$93,869.⁹

10. The Commission has historically used a Debt Service Coverage ("DSC") method to calculate the revenue requirements of water districts with long-term debt.

⁹ Staff's report at 9.

11. As demonstrated below, application of the Commission’s DSC method to Harrison County’s pro forma operations results in an overall revenue requirement of \$2,757,009. A revenue increase of \$223,057, or 9.14 percent, from water service rates is necessary to generate the overall requirement.

Pro Forma Operating Expenses	\$ 2,644,366
Plus: Average Annual Debt Payments	93,869
Additional Working Capital	<u>18,774</u>
Overall Revenue Requirement	2,757,009
Less: Other Operating Income	(44,834)
Interest Income	(18,268)
Nonutility Income	<u>(30,480)</u>
Revenue Required from Rates	2,663,427
Less: Pro Forma Present Rate Revenue	<u>(2,440,370)</u>
Required Revenue Increase	<u>\$ 223,057</u>
Percent Increase	<u>9.14%</u>

12. The rates set forth in Appendix B of this Order will produce the required revenue increase, are fair, just, and reasonable, and should be approved for service rendered on and after the date of this Order.

13. The water service rates requested by Harrison County, after accounting for the effects of the Commission’s PWA Order, will produce additional annual revenues in the amount of \$269,900 and should be denied.

14. During the test year, Harrison County used service lives for various water assets that are at variance with those found in a survey of the National Association of Regulatory Utility Commissioners (“NARUC Survey”) that contain “a range of average service lives currently being used by water utilities throughout the country for water

facilities designed and installed and maintained in accordance with good water works practice.”¹⁰

15. The Commission has previously used the NARUC Survey to establish the service lives of water assets when there is no evidence in the record that supports alternative lives.¹¹

16. The record contains no evidence that the service lives that Harrison County uses for the assets listed in Appendix C to this Order should be at variance with the NARUC Survey.

17. Harrison County’s assignment of service lives for these asset groups is not reasonable and should be revised in all future reporting periods to conform to the NARUC Survey for ratemaking and accounting purposes.

IT IS THEREFORE ORDERED that:

1. The water service rates requested by Harrison County are denied.
2. The water service rates set forth in Appendix B to this Order are approved for services rendered by Harrison County on and after the date of this Order.
3. Within 20 days of the date of this Order, Harrison County shall file revised tariff sheets with the Commission, using the Commission’s electronic Tariff Filing System, containing the rates set forth in Appendix B to this Order.

¹⁰ National Association of Regulatory Utility Commissioners, *Depreciation Practices for Small Water Utilities* (Aug. 15, 1979) at 11.

¹¹ Case No. 2006-00398, *Application of Northern Kentucky Water District for Approval of Depreciation Study* (Ky. PSC Nov. 21 2007); and Case No. 2012-00278, *Application of Graves County Water District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities* (Ky. PSC Sept. 5, 2012).

4. In all future reporting periods, Harrison County shall use the "PSC Approved Service Life" set forth in Appendix C to this Order for the listed asset groups when calculating and reporting depreciation for all reporting periods after the date of this Order. No adjustment to accumulated depreciation or retained earnings should be made to account for this change in accounting estimate.

By the Commission

ENTERED
FEB 12 2016
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:



Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
 COMMISSION IN CASE NO. 2015-00308 DATED **FEB 12 2016**

Summary of Revenue by Meter Size Using Rates Approved by PWA Order

<u>Meter Size</u>	<u>Revenue</u>	<u>(Ref.)</u>
5/8 Inch	\$2,332,991	(1)
3/4 Inch	35,889	(2)
1 Inch	42,680	(3)
1.5 Inch	3,619	(4)
2 Inch	25,146	(5)
Bulk Loading Station	46	
Pro Forma Water Sales from Rates Approved in PWA Order	2,440,370	
Less: Pro Forma Present Rate Water Sales from Staff Report	(2,335,117)	
Increase	<u>\$105,253</u>	

(1) Revenue Calculation for 5/8-Inch Meters Using Rates from PWA Order

		<u>Bills</u>	<u>Gallons</u>	<u>Rate</u>	<u>Revenue</u>
First	2,000	66,424	113,293,888	\$17.31	\$ 1,149,799
Next	8,000		41,806,876	6.53	272,999
Next	20,000		52,308,861	6.37	333,207
Next	20,000		86,860,580	5.87	509,872
All Over	50,000		13,342,590	5.03	67,113
Total		66,424	307,612,795		<u>\$ 2,332,991</u>

(2) Revenue Calculation for 3/4-Inch Meters Using Rates from PWA Order

		<u>Bills</u>	<u>Gallons</u>	<u>Rate</u>	<u>Revenue</u>
First	3,000	231	491,590	\$23.84	\$ 5,507
Next	2,000		254,810	6.37	1,623
Next	45,000		2,702,230	5.87	15,862
Over	50,000		2,563,980	5.03	12,897
Total		231	6,012,610		<u>\$ 35,889</u>

(3) Revenue Calculation for 1-Inch Meters Using Rates from PWA Order

		<u>Bills</u>	<u>Gallons</u>	<u>Rate</u>	<u>Revenue</u>
First	5,000	461	1,881,740	\$36.58	\$ 16,863
Next	45,000		3,183,840	5.87	18,689
Over	50,000		1,416,940	5.03	7,127
Total		461	6,482,520		<u>\$ 42,680</u>

(4) Revenue Calculation for 1.5-Inch Meters Using Rates from PWA Order

		<u>Bills</u>	<u>Gallons</u>	<u>Rate</u>	<u>Revenue</u>
First	10,000	36	331,630	\$65.93	\$ 2,373
Next	40,000		212,100	5.87	1,245
Over	50,000		0	5.03	0
Total		36	543,730		<u>\$ 3,619</u>

(5) Revenue Calculation for 2-Inch Meters Using Rates from PWA Order

		<u>Bills</u>	<u>Gallons</u>	<u>Rate</u>	<u>Revenue</u>
First	15,000	36	362,300	\$95.28	\$ 3,430
Next	35,000		766,100	5.87	4,497
Over	50,000		3,423,300	5.03	17,219
Total		36	4,551,700		<u>\$ 25,146</u>

APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2015-00308 DATED **FEB 12 2016**

The following water service rates are prescribed for the customers in the area served by Harrison County Water Association. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of the Commission prior to the effective date of this Order.

Monthly Water Rates

5/8-Inch x 3/4-Inch Meter

First	2,000 Gallons	\$ 18.89 Minimum Bill
Next	1,000 Gallons	7.13 Per 1,000 Gallons
Next	2,000 Gallons	6.95 Per 1,000 Gallons
Next	45,000 Gallons	6.41 Per 1,000 Gallons
Over	50,000 Gallons	5.49 Per 1,000 Gallons

3/4-Inch Meter

First	3,000 Gallons	\$ 26.02 Minimum Bill
Next	2,000 Gallons	6.95 Per 1,000 Gallons
Next	45,000 Gallons	6.41 Per 1,000 Gallons
Over	50,000 Gallons	5.49 Per 1,000 Gallons

1-Inch Meter

First	5,000 Gallons	\$ 39.92 Minimum Bill
Next	45,000 Gallons	6.41 Per 1,000 Gallons
Over	50,000 Gallons	5.49 Per 1,000 Gallons

1 1/2-Inch Meter

First	10,000 Gallons	\$ 71.96 Minimum Bill
Next	40,000 Gallons	6.41 Per 1,000 Gallons
Over	50,000 Gallons	5.49 Per 1,000 Gallons

2-Inch Meter

First	15,000 Gallons	\$103.99 Minimum Bill
Next	35,000 Gallons	6.41 Per 1,000 Gallons
Over	50,000 Gallons	5.49 Per 1,000 Gallons

Bulk Loading Station

\$ 7.73 Per 1,000 Gallons

APPENDIX C

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2015-00308 DATED **FEB 12 2016**

Modifications to the Service Lives
of Certain Assets of Harrison County Water Association

NARUC Account Number	Type of Asset	NARUC Average Service Life	Previously Assigned Service Life/Lives	PSC Approved Service Life/Lives
328	Other Pumping Plant	25	38, 20	25
331	Structures and Improvements	35-40	20	35
341	Structures and Improvements	35-40	30	35
342	Reservoirs and Tanks	30-60	20, 30	30
343	Transmission and Distribution Mains	50-75	30, 50, 63	50, 63
346	Meters	35-45	20, 35	35
391	Office Furniture and Equipment	20-25	23, 7, 5	23, 20
392	Transportation Equipment	7	7, 5	7
394	Tools, Shop & Garage Equipment	15-20	7, 13, 10	15
396	Power Operated Equipment	10-15	20, 30	15
397	Communications Equipment	10	20, 30, 10, 18, 7	10

*Mr. Danny D Northcutt
Manager
Harrison County Water Association, Inc.
P. O. Box 215
Cynthiana, KY 41031

*Harrison County Water Association, Inc.
2167 US 27 South
Cynthiana, KY 41031

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF LICKING)	
VALLEY RURAL ELECTRIC COOPERATIVE	)	CASE NO.
CORPORATION FOR A GENERAL RATE	)	2016-00174
INCREASE)	

ORDER

On August 8, 2016, Licking Valley Rural Electric Cooperative Corporation (“Licking Valley”) filed an application seeking approval to adjust its base electric rates and to make changes to certain nonrecurring charges. Licking Valley proposes to adjust its base electric rates to increase its operating revenues by \$1,562,659 and increase its revenues from returned-check charges by \$4,029. By letter dated August 11, 2016, the Commission notified Licking Valley that its rate application was rejected because it contained certain filing deficiencies. On August 25, 2016, Licking Valley submitted information that partially cured the filing deficiencies. By letter dated August 30, 2016, the Commission notified Licking Valley that its application remained deficient. On August 31, 2016, Licking Valley submitted additional information to correct the outstanding filing deficiencies and the application was deemed filed as of that date. Finding that an investigation would be necessary to determine the reasonableness of Licking Valley’s proposed increase, the Commission issued an Order on September 15, 2016, suspending the effective date of the proposed rates for five months, up to and including February 27, 2017, and establishing a procedural schedule for the processing

of this matter. The procedural schedule provided for, among other things, a deadline for intervention requests, two rounds of discovery upon Licking Valley's application, and a formal evidentiary hearing. There are no intervenors in this proceeding. Licking Valley responded to four rounds of discovery from Commission Staff ("Staff") and one round of post-hearing requests for information issued by Staff. The formal evidentiary hearing was conducted on January 24, 2017. Licking Valley submitted responses to post-hearing information requests on February 6, 2017. The matter now stands submitted for a decision.

BACKGROUND

Licking Valley is a member-owned rural electric cooperative corporation, organized under KRS Chapter 279. It is engaged in the distribution and sale of electric energy to approximately 17,316 member-consumers in Breathitt, Elliott, Lee, Magoffin, Menifee, Morgan, Rowan, and Wolfe counties, Kentucky.¹ Licking Valley does not own any electric generating facilities, but purchases its total power requirements from East Kentucky Power Cooperative, Inc.² Licking Valley's last general rate adjustment occurred in December 2009.³

TEST PERIOD

Licking Valley proposed, and the Commission accepts, a historical 12-month period ended October 31, 2015, as the test period for determining the reasonableness

¹ Annual Report of Licking Valley Rural Electric Cooperative Corporation to the Public Service Commission of the Commonwealth of Kentucky for the Calendar Year Ended December 31, 2015 (filed Mar. 23, 2016), at 45 and 53.

² *Id.* at 40 and 43.

³ Case No. 2009-00016, *Application of Licking Valley Rural Electric Cooperative Corporation for an Adjustment of Rates* (Ky. PSC Dec. 11, 2009).

of the proposed rates. In utilizing the historical test year, the Commission considers appropriate known and measurable changes.

VALUATION

Rate Base

Licking Valley determined a net investment rate base of \$36,300,796⁴ based on the adjusted test-year-end value of plant in service and construction work in progress (“CWIP”), the 13-month average balances for materials and supplies and prepayments, plus a cash working capital allowance, minus the adjusted accumulated depreciation and the test-year-end level of customer advances for construction (“Customer Advances”).

The Commission concurs with Licking Valley’s proposed rate base with the exception that working capital has been adjusted to reflect the pro forma adjustments to operation and maintenance expenses. With this adjustment, Licking Valley’s net investment rate base for ratemaking purposes is as follows:

⁴ Application, Exhibit K at 2.

Utility Plant in Service	\$ 67,546,087
CWIP	<u>1,236,648</u>
Total Utility Plant	<u>68,782,735</u>
Add:	
Materials and Supplies	518,267
Prepayments	125,769
Working Capital	<u>879,088</u>
Total Additions	<u>1,004,857</u>
Deduct:	
Accumulated Depreciation	(33,744,806)
Customer Advances for Construction	<u>(282,732)</u>
Total Deductions	<u>(34,027,538)</u>
Net Investment Rate Base	<u>\$ 35,760,054</u>

Capitalization and Capital Structure

The Commission finds that Licking Valley's capital structure at test-year-end was, for ratemaking purposes, \$42,863,578.⁵ This capital structure consisted of \$16,996,483 in equity and \$25,867,095 in long-term debt.⁶ The Commission excluded generation and transmission capital credits ("GTCCs") in the amount of \$12,635,508.⁷ Using this capital structure, Licking Valley's year-end ratio of equity to total capitalization was 39.65 percent.⁸

⁵ Application, Exhibit K at 7.

⁶ *Id.*

⁷ *Id.*

⁸ \$16,996,483 ÷ \$42,863,578 = 39.65%.

REVENUE AND EXPENSES

Licking Valley proposes 16 adjustments to revenues and expenses to reflect current and expected operating conditions. The Commission finds that 11 of the adjustments proposed by Licking Valley are reasonable and should be accepted without change. Those adjustments are shown in the following table:

<u>Description</u>	<u>Adjustments</u>
Normalize Revenues	\$ (1,704,218)
Normalize Purchased Power Costs	\$ (1,597,755)
Depreciation	\$ 40,011
Property Tax	\$ 30,037
Interest on Long-Term Debt	\$ (3,672)
Donations	\$ (25,737)
Directors	\$ (2,142)
Annual and Miscellaneous	\$ (40,117)
G&T Capital Credits	\$ (1,394,546)
Additional Revenue	\$ (10,006)
Returned Check Charge	\$ 4,029

The Commission finds that the remaining proposed adjustments should be modified as discussed in more detail below.

Salaries & Wages

Licking Valley proposed an adjustment of \$106,399⁹ to normalize total wages and salaries, of which \$32,912 was capitalized¹⁰ and \$73,487¹¹ was expensed. Licking Valley's calculation assumes that all of its 44 full-time employees (three Salaried and 41 Hourly) worked 2,080 hours in the test year and normalized for the 2 percent wage

⁹ Application, Exhibit 1.

¹⁰ The capitalized portion reflects actual capitalized costs and payroll costs allocated to other accounts. The other accounts include amounts assigned to clearing, stores, transportation, and employee sick leave. Unless otherwise noted, references in this Order to "capitalized" reflect this combination of actual capitalized costs and other costs.

¹¹ Application, Exhibit S, Adjustment 1.

increase that was granted by Licking Valley's Board of Directors on October 31, 2015.¹² Licking Valley used the actual hours worked during the test year to calculate the salaries for its part-time employees.¹³ The actual test-year overtime hours were multiplied by 1.5 times the test-year-end wage rates for hourly employees to calculate the normalized test-year overtime wages.¹⁴ Licking Valley also included payment for vacation/sick leave in excess of 75 days, and on-call dispatching pay for four full-time employees.¹⁵

The Commission finds that Licking Valley's adjustment is inconsistent in that it used the actual test-year hours in calculating overtime wages and salaries for part-time employees, while assuming that each full-time employee worked 2,080 regular hours in the test year. This assumption is incorrect. During the test year, seven employees, or 16 percent of its 44 full-time employees, worked less than 2,080 annual hours. The table below shows that historically a significant number of Licking Valley's full-time employees work less than 2,080 regular hours in a year. Given this historical trend, the Commission finds that the actual regular test-year hours worked by Licking Valley's full-time employees should be used in the calculation of pro forma salaries. The Commission recalculated the proposed adjustment to salaries and wages and decreased the adjustment from \$73,487 to \$66,069.

¹² Application, Exhibit 1.

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

Full-time Employees Working Less than 2,080 Annual Hours¹⁶

<u>2010</u> 6	<u>2011</u> 8	<u>2012</u> 3	<u>2013</u> 6	<u>2014</u> 4	<u>2015</u> 4
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The Commission is concerned about the lack of information to evaluate salaries and wages paid to all Licking Valley employees. According to Licking Valley, its “pay structure has been developed over time based on knowledge of employee’s job responsibilities, duties, and abilities.”¹⁷ Licking Valley has not conducted a study or analysis to show that its current pay structure is reasonable or relevant in today’s market. Licking Valley provided a limited analysis comparing its linemen’s wages to the linemen wage rates being paid in the West Liberty area and concluded, “Our hourly wage rates are very reasonable, and less than the prevailing hourly wage rate.”¹⁸

Licking Valley was unable to provide salary and wage information specific to its service area for all of its employee positions. The Commission has begun placing more emphasis on evaluating salary and benefits provided by electric cooperatives as they relate to competitiveness in a broad marketplace, as opposed to wage and salary studies limited exclusively to electric cooperatives, electric utilities, or other regulated utility companies.¹⁹ In its next rate application, Licking Valley will be required to include

¹⁶ Licking Valley’s responses to Commission Staff’s Third Request for Information (“Staff’s Third Request”), Item 7.

¹⁷ *Id.*, Item 8.a.

¹⁸ Licking Valley’s responses to Commission Staff’s Second Request for Information (“Staff’s Second Request”), Item 19.

¹⁹ See Case No. 2015-00312, *Application of Kenergy Corp. for a General Adjustment in Rates* (Ky. PSC Sept. 15, 2016), at 15, and Case No. 2016-00169, *Application of Licking Valley Electric, Inc. for a General Adjustment of Rates* (Ky. PSC Feb. 16, 2017) at 8.

a formal study that provides local wage and benefit information for Licking Valley's operating area and to include state data where available.

Payroll Taxes

Licking Valley proposed to increase its payroll taxes by \$11,751,²⁰ based on the proposed normalization of wages and salaries and reflecting the Federal Insurance Contribution Act base wage limit of \$118,500 for 2015, and federal and state unemployment wage limits and rates in effect at the test-year-end. Of this amount, \$3,635 was capitalized and \$8,116 was expensed.²¹

Licking Valley's proposed payroll tax adjustment reflects the difference between pro forma and actual payroll tax expense of \$222,753 and \$211,002, respectively.²² However, in its work papers, Licking Valley calculated a pro forma payroll tax expense of \$224,784,²³ which is \$2,031²⁴ greater than the pro forma amount used in the proposed adjustment. The Commission recalculated the pro forma adjustment to payroll taxes based on the salaries and wages expense determined reasonable herein and increased the payroll tax adjustment from \$8,116 to \$8,950.

²⁰ Application, Exhibit 2.

²¹ *Id.*

²² *Id.*

²³ *Id.* \$176,229 (FICA) + \$41,215 (Medicare) + \$2,520 (Federal Unemployment) + \$4,820 (State Unemployment) = \$224,784.

²⁴ \$224,784 (Pro Forma Payroll Taxes Workpaper) - \$222,753 (Pro Forma Payroll Taxes Adjustment) = \$2,031.

Retirement

Licking Valley proposed to increase its retirement contribution costs by \$10,229,²⁵ based on the proposed normalization of wages and salaries. Of this amount, \$3,164 was capitalized and \$7,065 was expensed.²⁶ Licking Valley participates in the National Rural Electric Cooperative Association's Retirement security program 401(k) defined-contribution plan for all of its full-time employees.²⁷ Licking Valley is required to contribute 11 percent of each employee's base compensation, and each employee is required to match at least 4 percent, with an election to contribute more.²⁸ The Commission recalculated the pro forma adjustment to 401(k) retirement expense based upon the salaries and wages expense determined reasonable herein and decreased the retirement adjustment from \$7,065 to \$6,248.

Employee Contribution for Health Insurance

Licking Valley's employee health insurance plan "provides for Single, Family, and Dependent only coverage for both Medical and Prescription Drug."²⁹ Licking Valley pays the monthly premiums for its employees without dependents and requires employees with dependents to contribute 10.37 percent toward the premium.³⁰ Licking

²⁵ Application, Exhibit 6.

²⁶ *Id.*

²⁷ *Id.*

²⁸ Licking Valley's responses to Commission's January 19, 2017 Order, Item 2, National Rural Electric Cooperative Association Adoption Agreement "A" 401(k) Pension Plan, 7. Contributions, c. Employer Matching Contribution.

²⁹ Licking Valley's responses to the Commission Staff's Fourth Request for Information ("Staff's Fourth Request"), Item 2.

³⁰ Licking Valley's responses to Commission's January 19, 2017 Order, Item 3, Board of Directors Policies and Procedures Manual, Policy Number 213, Subject: Employees Major Medical Insurance Plan, Practices 1, Premium.

Valley also provides life insurance coverage of \$50,000 for each employee through the National Rural Electric Cooperative Association.³¹

The Commission expects Licking Valley to increase its efforts to reign in expenses for employee benefits by establishing a policy of limiting Licking Valley's contribution to health insurance premiums and requiring that all employees pay some portion of the premium. The Commission finds that Licking Valley should limit its contributions to its employees' health plans to percentages more in line with those of other businesses in order to reduce its expenses. Accordingly, the Commission will for ratemaking purposes adjust test-year health expense for all employees based on national average employee contribution rates.

The Commission has reduced health insurance expense \$130,935, based on a 32 percent employee contribution rate for family coverage and 21 percent employee contribution rate for single coverage.³² The Commission will accept the test-year expense for life insurance for full-time employees in this case. However, in its next rate case filing, Licking Valley's request for cooperative paid life insurance should be capped at the lesser of an employee's annual salary or \$50,000.

Professional Services

Licking Valley proposes to reduce test-year professional services expense by \$493 to remove items not normally included for ratemaking purposes.³³ The

³¹ Licking Valley's responses to the Staff's Fourth Request, Item 2.

³² Bureau of Labor Statistics, Healthcare Benefits, March 2016, Table 10, private industry workers. (<https://www.bls.gov/ncs/ebs/benefits/2016/ownership/private/table10a.pdf>)

³³ Application, Exhibit 8.

Commission agrees with the reductions proposed by Licking Valley. However, the Commission has identified an additional adjustment that should be made.

Licking Valley included in its test-year professional services expense payments to the Kentucky Association of Electric Cooperatives (“KAEC”) in the amount of \$15,897 for Kentucky sales tax issues.³⁴ “KAEC coordinated with each of the cooperatives in Kentucky to share the legal costs of the sales tax audit between Warren Rural Electric and the Kentucky Revenue Cabinet”³⁵ Licking Valley agreed that the sales tax audit allocation should be removed from professional services expense.³⁶ Adding this additional item to Licking Valley’s adjustment of \$493, the Commission has reduced miscellaneous expenses by a total of \$16,390.

Rate Case Expense

Licking Valley estimated its rate case expense at \$90,000.³⁷ It proposed to recover this expense through a three-year amortization. This estimate did not include in-house labor.³⁸ As of December 31, 2016, Licking Valley had expended \$45,337³⁹ to prepare and process this rate case. The Commission finds that a three-year amortization of these expenses is reasonable and will allow an increase in operating expense of \$16,138 to reflect the first year of the amortization for ratemaking purposes.

³⁴ *Id.*

³⁵ Licking Valley’s responses to Staff’s Second Request, Item 26.b.

³⁶ Licking Valley’s response to Staff’s Third Request, Items 11.b. and 12.

³⁷ Licking Valley’s responses to Staff’s Second Request, Item 9.

³⁸ Application, Exhibit 11.

³⁹ Response to Commission Staff’s Post-Hearing Request for Information (“Staff’s Post-Hearing Request”), Item 7.

Pro Forma Adjustments Summary

The effect of the pro forma adjustments on Licking Valley's net income is as follows:

	<u>Actual Test Year</u>	<u>Pro Forma Adjustments</u>	<u>Pro Forma Test Year</u>
Operating Revenues	\$ 28,157,344	\$ (1,710,195)	\$ 26,447,149
Cost of Electric Service:			
Operating Expenses	26,350,655	(1,657,826)	24,692,829
Depreciation	2,189,646	37,915	2,227,561
Taxes - other	41,214	0	41,214
Interest on long-term debt	430,628	(3,672)	426,956
Interest expense - other	6,939	0	6,939
Other deductions	25,737	(25,737)	0
Total Cost of Electric Service	<u>29,044,819</u>	<u>(1,649,320)</u>	<u>27,395,499</u>
Utility Operating Margins	(887,475)	(60,875)	(948,350)
Non-operating margins, interest	29,888	0	29,888
Patronage capital credits	<u>1,457,499</u>	<u>(1,394,546)</u>	<u>62,953</u>
Net Income	<u>\$ 599,912</u>	<u>\$ (1,455,421)</u>	<u>\$ (855,509)</u>

REVENUE REQUIREMENTS

The actual rate of return earned on Licking Valley's net investment rate base established for the test year was 2.3 percent.⁴⁰ Licking Valley requests rates that would result in a Times Interest Earned Ratio ("TIER") excluding GTCCs of 2.25X⁴¹ and a rate of return of 2.65 percent⁴² on its proposed rate base of \$36,300,796. Licking Valley proposes an increase in base electric rates of \$1,562,659 to achieve a 2.25X TIER excluding GTCCs.

⁴⁰ Application, Exhibit K, at 3.

⁴¹ Direct Testimony of James R. Adkins at 5.

⁴² $\$536,518$ (Requested Margin) + $\$426,956$ (Normalized Interest on Long-Term Debt) = $\$963,474 \div \$36,300,796$ (Net Investment Rate Base) = 2.65%.

Licking Valley's actual TIER excluding GTCCs for the test period was (0.85)X and was 2.46X and 0.85X for the calendar years 2013 and 2014, respectively.⁴³ After taking into consideration pro forma adjustments, Licking Valley would achieve a (1.41)X TIER excluding GTCCs for the test period without an increase in revenues.⁴⁴ Licking Valley's Operating Times Interest Earned Ratio ("OTIER") for the test period was (1.06)X.⁴⁵ Licking Valley requests this rate adjustment in order to meet the terms of its mortgage agreement and to maintain its financial stability and integrity.⁴⁶

The TIER method for determining margins has been the approach used by the Commission in electric distribution cooperative rate cases. Licking Valley stated the Commission has normally authorized a TIER of 2.00X, but has authorized a higher TIER in the most recent rate application of South Kentucky RECC.⁴⁷ Licking Valley is requesting a 2.25X TIER because of its deteriorating equity capitalization ratio and extremely low interest expense.⁴⁸

Licking Valley's mortgage agreements with the Rural Utilities Services ("RUS") and National Utilities Cooperative Finance Corporation require Licking Valley to maintain a net TIER of 1.25X, an OTIER of 1.1X and an equity to total asset ratio with G&T patronage capital of 40 percent.⁴⁹ The Commission notes that Licking Valley's

⁴³ *Id.* at 6.

⁴⁴ *Id.*, Exhibit S.

⁴⁵ Licking Valley's responses to Staff's Second Request, Item 8.c.

⁴⁶ Application at 2.

⁴⁷ Case No. 2011-00096, *Application of South Kentucky Rural Electric Cooperative Corporation for an Adjustment of Rates* (Ky. PSC May 11, 2012).

⁴⁸ Direct Testimony of James R. Adkins ("Adkins Testimony") at 5.

⁴⁹ Transcript of Evidence at 9:53:20 – 9:53:40 and 10:12:03 – 10:12:21.

equity capitalization ratio without G&T patronage capital did fluctuate from 43 percent to 45 percent in the calendar years 2010 through 2014 and dropped to 40 percent in the test year.⁵⁰ However, Licking Valley's equity to total asset ratio of 48 percent exceeded the RUS requirement and its test year TIER of 2.39X was greater than the required 1.25X.⁵¹ The only RUS mortgage requirement that Licking Valley did not meet was the OTIER which was (0.85)X in the test year.⁵²

For the above reasons the Commission finds that Licking Valley has not justified the use of a 2.25X TIER in calculating a reasonable revenue requirement. Based upon the pro forma adjustments found reasonable herein, the Commission has determined that an increase in Licking Valley's revenues from base rates of \$1,282,465 would result in a TIER of 2.00X. This additional revenue should produce net income of \$426,956. The Commission has determined that the above increase in revenues should result in an OTIER of 1.78X, which should allow Licking Valley to meet its mortgage requirements and service its mortgage debts. Based on the net investment rate base of \$35,760,054 found reasonable herein, this additional revenue should result in a rate of return on rate base of 2.39 percent.⁵³

⁵⁰ Application, Exhibit K at 7.

⁵¹ *Id.* at 6.

⁵² *Id.*

⁵³ $\$426,956$ (Granted Margin) + $\$426,956$ (Normalized Interest on Long-Term Debt) = $\$853,912 \div$ $\$35,760,054$ (Net Investment Rate Base) = 2.39%.

PRICING AND TARIFF ISSUES

Cost of Service

Licking Valley filed a fully allocated cost-of-service study ("COSS") in order to determine the cost to serve each customer class and the amount of revenue to be allocated to each customer class. Having reviewed Licking Valley's COSS, the Commission finds it to be acceptable for use as a guide in allocating the revenue increase granted herein.

Revenue Allocation

Licking Valley states that, based on the results of the COSS, the following rate classes are not providing sufficient revenue to cover their revenue requirements: Schedule A - Residential, Farm, Small Community Hall and Church Service; Schedule B - Commercial and Small Power Service; and Schedule SL - Outdoor Lighting. However, Licking Valley proposes to allocate the increase to all of its rate classes in order to keep the overall increase to Schedule A to a reasonable level.

Rate Design

Licking Valley is proposing to allocate the proposed increase to all its rate classes with the majority of the increase being placed on the customer charge. Licking Valley states that according to its COSS, the current customer charges are insufficient to cover the consumer-related costs incurred to provide service.⁵⁴

Upon consideration of this issue, the Commission concludes that, for an electric cooperative that is strictly a distribution utility, there is merit to the argument that there is a need for a means to guard against the revenue erosion that often occurs due to the decrease in sales volumes that accompanies poor regional economics, changes in

⁵⁴ Application, Adkins Testimony, page 11 of 15.

weather patterns, and the implementation or expansion of demand-side management and energy-efficiency programs. However, the Commission believes that Licking Valley's proposed 61 percent increase in the residential customer charge from \$9.32 to \$15.00 does not support the general principle of gradualism. For this reason, the Commission will approve a customer charge for the Residential rate class of \$14.00, an increase of 50 percent. All other proposed customer charges are approved. The table below shows the current, proposed, and approved customer charges along with the amounts supported by the COSS.

	<u>Current</u>	<u>Proposed</u>	<u>Approved</u>	<u>COSS Results</u>
Residential, Schools, and Churches	\$ 9.32	\$ 15.00	\$ 14.00	\$ 28.38
Commercial and Small Power	\$ 20.71	\$ 28.75	\$ 28.75	\$ 29.41
Large Power Service	\$ 50.94	\$ 71.55	\$ 71.55	\$ 81.04
Large Power Rate	\$ 101.89	\$ 110.00	\$ 110.00	\$ 166.94

The Commission approves the proposed increase to the energy charge for the Commercial and Small Power rate class as well as the proposed increase to Security Lighting. The energy charge for the Residential class is increased also, but this increase is slightly less than what was proposed. Based on Licking Valley's average residential usage of 985 kilowatt-hours ("kWh"), the average bill for the residential customers will increase by \$5.66, from \$101.47 to \$107.13, or 5.6 percent.

Licking Valley is proposing to lower its monthly prepay metering program fee from \$5 to \$3.60. The prepay program fee is comprised of, among other things, the incremental cost of an AMI meter with a disconnect feature. In Case No. 2016-00077, the Commission approved Licking Valley's request to install a new AMI metering system which will provide every residential customer with a meter containing a disconnect

feature.⁵⁵ Licking Valley is now proposing to remove the meter and associated costs from its approved monthly prepay program fee, thus reducing the monthly fee by \$1.40. The Commission has reviewed Licking valley's proposal and finds it to be reasonable.

Nonrecurring Charges

Licking Valley proposed an increase in its returned-check charge from \$13 to \$30.⁵⁶ The Commission has reviewed the supporting calculation and finds that the increase in the returned check charge should be approved. Approval of this increase will result in an additional \$4,029 in miscellaneous service revenues for Licking Valley.

SUMMARY

The Commission, after consideration of the evidence of record and being otherwise sufficiently advised, finds that:

1. The rates proposed by Licking Valley would produce revenues in excess of the amount found reasonable herein and should be denied.
2. The rates set forth in the Appendix to this Order are the fair, just, and reasonable rates for Licking Valley to charge for service rendered on and after the date of this Order and should be approved.
3. The rate of return and TIER granted herein will provide for Licking Valley's financial obligations.
4. As provided previously in this Order, in its next rate application Licking Valley will be required to include a formal study that provides local wage and benefit

⁵⁵ Case No. 2016-00077, *Application of Licking Valley Rural Electric Cooperative Corporation for an Order Issuing a Certificate of Public Convenience and Necessity* (Ky. PSC Jan. 10, 2017).

⁵⁶ Application, Exhibit 16.

information for the area in which Licking Valley operates, and the study must include state data where available.

IT IS THEREFORE ORDERED that:

1. The rates proposed by Licking Valley are denied.
2. The rates set forth in the Appendix to this Order are approved for services rendered by Licking Valley on and after the date of this Order.
3. Within 20 days of the date of this Order, Licking Valley shall file with this Commission, using the Commission's electronic Tariff Filing System, new tariff sheets setting forth the rates and charges approved herein and reflecting their effective date and that they were authorized by this Order.
4. In its next rate application, Licking Valley shall perform a formal study that provides local wage and benefit information for the area in which Licking Valley operates, and the study shall include state data where available.

By the Commission



ATTEST:


Executive Director

APPENDIX

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2016-00174 DATED **MAR 01 2017**

The following rates and charges are prescribed for the customers in the area serviced by Licking Valley Rural Electric Cooperative Corporation. All other rates and charges not specifically mentioned in this Order shall remain the same as those in effect under authority of this Commission prior to the effective date of this Order.

SCHEDULE A
RESIDENTIAL, FARM, SMALL COMMUNITY HALL AND CHURCH SERVICE

Customer Charge	\$ 14.00
Energy Charge per kWh	\$ 0.094542
Prepay Charge	\$ 3.60

SCHEDULE B
COMMERCIAL AND SMALL POWER SERVICE

Customer Charge	\$ 28.75
Energy Charge per kWh	\$ 0.830000

SCHEDULE LP
LARGE POWER SERVICE

Customer charge	\$ 71.55
Demand Charge per kW	\$ 7.36
Energy Charge per kWh	\$ 0.068887

SCHEDULE LPR
LARGE POWER RATE

Customer Charge	\$ 110.00
Demand Charge per kW	\$ 6.91
Energy Charge per kWh	\$ 0.060439

SCHEDULE SL
SECURITY LIGHTS AND RURAL LIGHTING

Monthly Rate:

175 Watt MV	\$ 10.52
100 Watt Halide	\$ 10.52
250 Watt Halide	\$ 16.22
400 Watt Halide	\$ 22.38
25' Pole	\$ 3.06
30' Pole	\$ 3.54
68 Watt LED Light	\$ 9.40
108 Watt LED Light	\$ 11.28
202 Watt LED Light	\$ 17.81

NONRECURRING CHARGES

Returned Check Charge	\$ 30.00
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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF NORTH)	
MERCER WATER DISTRICT FOR RATE	)	CASE NO.
ADJUSTMENT MADE PURSUANT TO	)	2016-00325
807 KAR 5:076)	

ORDER

On November 16, 2016, North Mercer Water District (“North Mercer”) tendered an application with the Commission pursuant to 807 KAR 5:076 requesting to adjust its rates for water service. By letter dated November 30, 2016, the Commission notified North Mercer that its application was rejected as deficient. On December 9, 2017, North Mercer submitted information curing the filing deficiencies, and by letter dated December 12, 2016, the Commission notified North Mercer the application was deemed filed. In its application, North Mercer requested rates that would increase annual water sales revenues by \$481,314, a 24.41 percent increase to pro forma present rate water sales revenues, as determined by North Mercer, in an amount of \$1,971,576.

PROCEDURE

By Order dated December 27, 2016, the Commission established a procedural schedule through which North Mercer’s application would be reviewed. Pursuant to the procedural Order, Commission Staff (“Staff”) issued a report on March 22, 2017, containing its findings regarding North Mercer’s requested rate adjustment. As summarized in its report, by applying methods and practices that are generally accepted

by the Commission, Staff found that North Mercer's adjusted test-year operations support an increase of \$336,064, or 17.12 percent, to pro forma present rate revenues for total water service rate revenue of \$1,962,578. Staff also found that North Mercer should change the depreciable lives assigned to certain assets when calculating depreciation for accounting and ratemaking purposes.

The schedule required that comments to the report be filed within 14 days of the date of the report. On April 1, 2017, North Mercer filed responses to Staff's report wherein it accepted Staff's findings and requested that no informal conference or hearing be held.

STAFF REPORT FINDINGS MODIFICATIONS

The following are the Commission's modifications to the findings contained in the Staff Report:

Employee Contribution for Health, Dental, and Life Insurance

North Mercer currently pays 100 percent of the monthly premiums for health insurance for its employees, their spouses, and dependents. Additionally, North Mercer currently pays 100 percent of the monthly premiums for dental insurance for an employee with a single dental plan and 100 percent of the employee's portion of the monthly premiums with a family dental plan. North Mercer also pays 100 percent of life insurance premiums for all of its employees.

The Commission expects North Mercer to increase efforts to reduce expenses related to employee benefits by establishing a policy that requires employees to pay a portion of their healthcare and dental insurance premiums. The Commission finds that North Mercer should exercise financial prudence and reduce expenses by limiting

contributions to its employees' health care and dental plans to levels more commensurate with those of other businesses.

Accordingly, the Commission will adjust North Mercer's test-year expenses for employee's health and dental insurance based on national average employee contribution rates. The Commission has reduced health insurance expenses for salaried employees by \$29,848, based on a 32 percent family employee contribution rate.¹ The Commission has also reduced dental insurance expenses for employees in the amount of \$2,076, based on a 60 percent employee contribution rate.² For this case, the Commission will accept the test-year expense for life insurance premiums for employees. However, for any future North Mercer rate-increase requests, cost recovery for paid life insurance premiums will be capped at the lesser of two times the employee's annual salary or \$100,000.

Salaries and Wages

The Commission is concerned about the lack of information to evaluate salaries and wages paid to North Mercer's employees, especially given that no basis or justification has been provided for its annual wage and salary increases. The Commission has begun placing more emphasis on performance-based evaluations of salary and benefits provided by utility providers as they relate to competitiveness in a

¹ Bureau of Labor Statistics, Healthcare Benefits, July 22, 2016, Table 4, private industry workers. (<https://www.bls.gov/news.release/pdf/ebs2.pdf>)

² The Willis Benefits benchmarking Survey, 2015. (https://www.willis.com/documents/publications/Services/Employee_Benefits/20151230_2015WillisBenefitsBenchmarkingSurveyReport.pdf)

broad marketplace.³ Future rate applications filed by North Mercer should include a performance-based validation method to justify raises that were granted to North Mercer’s employees.

Rates

Attachment A of the Commission Staff report contained a typographical error under the 5/8-Inch Meters heading. It shows that the \$7.75 per 1,000 gallon rate is applicable for all usage “Over 10,000 gallons.” It should read for all usage “Over 1,000 gallons.”

Additionally, the Bulk Sales rate in Attachment A was omitted. North Mercer’s bulk water sales is delivered through a quarter-coin-operated machine and can only be increased in increments of \$0.25. Therefore, the Bulk Sales rate should be increased from \$0.25 to \$0.50 per 80 gallons.

SUMMARY

The Commission finds that, based on the modifications to the findings of the Staff Report, North Mercer’s pro forma operations should be as follows:

	Staff Pro Forma Operations	Commission Adjustments	Commission Pro Forma Operations
	<u> </u>	<u> </u>	<u> </u>
Operating Revenues	\$ 2,026,092		\$ 2,026,092
Operating Expenses	<u>1,838,754</u>	\$ (31,924)	<u>1,806,830</u>
Net Operating Income	187,338		219,262
Interest Income	<u>10,078</u>		<u>10,078</u>
Income Available for Debt Service	<u>\$ 197,416</u>	<u>\$ 31,924</u>	<u>\$ 229,340</u>

³ See Case No. 2015-00312, *Application of Kenergy Corp. for a General Adjustment in Rates* (Ky. PSC Sept. 15, 2016), at 15, and Case No. 2016-00169, *Application of Licking Valley Electric, Inc. For a General Adjustment of Rates* (Ky. PSC Feb. 16, 2017) at 8.

REVENUE REQUIREMENT DETERMINATION

Based upon the Commission's findings and determinations herein, North Mercer requires an increase in revenues of \$304,140, or 15.50 percent, as shown below.

Pro Forma Operating Expenses	\$ 1,806,830
Plus: Average Annual Principal and Interest Payments	444,567
Additional Working Capital	<u>88,913</u>
Overall Revenue Requirement	2,340,310
Less: Other Operating Revenue	(63,514)
Interest Income	<u>(10,078)</u>
Revenue Required From Rates	2,266,718
Less: Pro Forma Present Rate Revenue	<u>(1,962,578)</u>
Required Revenue Increase	<u>\$ 304,140</u>
Percent Increase	<u>15.50%</u>

RATE DETERMINATION

Using the revenue requirement determined reasonable herein, the Commission has attached its revised Cost of Service Study as Appendix B. Staff's revised rates are included as Appendix A.

Having considered the evidence of record and being otherwise sufficiently advised, the Commission finds that:

1. North Mercer was organized pursuant to KRS Chapter 74. It owns and operates facilities that distribute water to approximately 4,518 customers in Anderson, Boyle, Mercer, and Washington counties, Kentucky.⁴

⁴ Annual report of North Mercer Water District to the Public Service Commission for the Calendar Year Ending December 31, 2015 ("Annual Report") at 12 and 53.

2. The calendar year ended December 31, 2015, should be used as the test year to determine the reasonableness of North Mercer’s existing and proposed rates.

3. Based upon pro forma test-year operations, North Mercer’s total pro forma present rate revenue and total pro forma operating expenses, after adjusting for known and measurable changes, are \$2,036,170⁵ and \$1,806,830, respectively.

4. North Mercer currently has three outstanding bond series payable to the United States Department of Agriculture Rural Development (“RD”), and one bond series and one loan, both payable to the Kentucky Infrastructure Authority (“KIA”). The five-year average annual principal and interest payments for the years 2017 through 2021 on all outstanding debt instruments is \$444,567.⁶

5. The Commission has historically used a Debt Service Coverage (“DSC”) Methodology to calculate the revenue requirements of water districts with long-term debt.

6. North Mercer’s pro forma operations, as calculated by Staff using the DSC Methodology and incorporating the Commission’s modifications, support a total revenue requirement of \$2,266,718 and an increase to water sales revenue of \$304,140, or 15.50 percent.

⁵ Staff Report at 5.

Revenues and Income	
Pro Forma Present Rate Water Sales	\$ 1,962,578
Miscellaneous Service Revenue	63,514
Interest Income	<u>10,078</u>
Total	<u>\$ 2,036,170</u>

⁶ Staff Report at 21.

7. North Mercer presently uses service lives for various water assets that are at variance with those found in a survey of the National Association of Regulatory Utility Commissioners (“NARUC”) of “average service lives currently being used by water utilities throughout the country for water facilities designed and installed and maintained in accordance with good water works practice.”⁷

8. The Commission has previously used the NARUC Survey to establish the service lives of water assets when there is no evidence in the record that supports alternative lives.⁸

9. North Mercer’s assignment of service lives for these asset groups is not reasonable and should be revised to conform to the NARUC Survey for ratemaking and accounting purposes in all future reporting periods.

IT IS THEREFORE ORDERED that:

1. The findings contained in the Staff Report, as modified herein, are adopted and incorporated by reference into this Order as if fully set out herein.

2. The water service rates proposed in North Mercer’s Application are denied.

3. The water service rates shown in Appendix A to this Order are approved for water service rendered on and after the date of this Order.

⁷ National Association of Regulatory Utility Commissioners, *Depreciation Practices for Small Water Utilities* (Aug. 15, 1979) at 11.

⁸ Case No. 2006-00398, *Application of Northern Kentucky Water District for Approval of Depreciation Study* (Ky. PSC Nov. 21 2007); and Case No. 2012-00278, *Application of Graves County Water District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities* (Ky. PSC Sept. 5, 2012).

4. Within 20 days of the date of this Order, North Mercer shall file revised tariff sheets with the Commission, using the Commission's electronic Tariff Filing System, containing the rates set forth in Appendix A to this Order.

5. North Mercer shall use the Commission-approved service lives set forth below to depreciate water plant assets for accounting purposes in all future reporting periods. No adjustment to accumulated depreciation, or retained earnings should be made to account for this change in the accounting estimate.

Reservoirs and Tanks	45, 50
Transmission and Distribution Mains	63
Meters and Meter Installations	40
Hydrants	50
Structures and Improvements	35
Other Plant and Misc. Equipment	10
Transportation Equipment	7
Office Furniture and Equipment	10, 20

6. In future rate applications, North Mercer shall provide information supporting wage and salary increases as described in this Order.

By the Commission

ENTERED
MAY 19 2017
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:


Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2016-00325 DATED **MAY 19 2017**

The following rates and charges are prescribed for the customers in the area served by North Mercer Water District. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of the Commission prior to the effective date of this Order.

Monthly Water Rates

5/8-Inch Meters

First	1,000 gallons	\$ 18.22	Minimum Bill
Over	1,000 gallons	7.69	per 1,000 gallons

1-Inch Meters

First	2,500 gallons	\$ 29.76	Minimum Bill
Over	2,500 gallons	7.69	per 1,000 gallons

2-Inch Meters

First	10,000 gallons	\$ 87.43	Minimum Bill
Over	10,000 gallons	7.69	per 1,000 gallons

Bulk Loading Station	\$ 0.50	per 80 gallons
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APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2016-00325 DATED **MAY 19 2017**

NORTH MERCER WATER DISTRICT
ALLOCATION OF PLANT VALUE

	TOTAL	COMMODITY	DEMAND	CUSTOMER
Structures & Improvements	\$206,041		\$206,041	
Land & Land Rights	48,802		48,802	
Pumping Equipment	48,996		48,996	
Distribution Reservoirs & Standpipes	1,695,007		1,695,007	
Transmission & Distribution Mains	12,644,980		12,644,980	
Hydrants	21,588			\$21,588
Meters & Meter Installations	2,258,692			2,258,692
SUBTOTAL	\$16,924,106	\$0	\$14,643,826	\$2,280,280
PERCENT	100.00%	0	86.53%	13.47%
General Plant (1)				
Transportation Equipment	211,742		183,213	28,529
Office Furniture & Equipment	36,550		31,625	4,925
Power Operated Equipment	63,809		55,212	8,597
Miscellaneous	2,866		2,480	386
Tools, Shop & Garage Equipment	7,032		6,085	947
Other Plant & Misc. Equipment	648,245		560,903	87,342
Total General Plant	970,244		839,518	130,726
TOTAL VALUE	\$17,894,350	\$0	\$15,483,344	\$2,411,006

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

Note: Figures used were derived from 2015 Annual Report

NORTH MERCER WATER DISTRICT

ALLOCATION OF DEPRECIATION EXPENSE

	TOTAL	COMMODITY	DEMAND	CUSTOMER
Structures & Improvements	\$139,063		\$139,063	
Pumping Equipment	32,297		32,297	
Distribution Reservoirs & Standpipes	612,478		612,478	
Transmission & Distribution Mains	4,892,739		4,892,739	
Hydrants	14,496			\$14,496
Meters & Meter Installations	861,149			861,149
SUBTOTAL	\$6,552,222	\$0	\$5,676,577	\$875,645
PERCENT	100.00%	0	86.64%	13.36%
General Plant (1)				
Transportation Equipment	135,093		117,039	18,054
Office Furniture & Equipment	29,858		25,868	3,990
Power Operated Equipment	63,809		55,282	8,527
Miscellaneous	1,829		1,585	244
Tools, Shop & Garage Equipment	7,031		6,091	940
Other Plant & Misc. Equipment	410,995		356,069	54,926
Total General Plant	648,615		561,933	86,682
TOTAL VALUE	\$7,200,837	\$0	\$6,238,510	\$962,327

Note: Figures used were derived from 2015 Annual Report

NORTH MERCER WATER DISTRICT

ALLOCATION OF OPERATION AND MAINTENANCE EXPENSE

	TOTAL	COMMODITY	DEMAND	CUSTOMER
Employees Salaries	\$393,558		\$222,599	\$170,959
Employee Pensions & Benefits	139,713		79,023	60,690
Purchased Water	629,216	\$629,216		
Purchased Power	23,274	23,274		
Materials & Supplies	67,190		67,190	
Contractual Services - Maintenance	21,173		21,173	
SUBTOTAL	\$1,274,124	\$652,490	\$389,985	\$231,649
LESS COMMODITY	-\$652,490			
SUBTOTAL	\$621,634		\$389,985	\$231,649
PERCENT	100.00%		62.74%	37.26%
Water Testing	15,650		9,818	5,832
Transportation Expense	28,455		17,851	10,604
Commissioner Salaries	15,300		9,599	5,701
Insurance	36,346		22,802	13,544
Bad Debt Expense	5,054		3,171	1,883
Miscellaneous Expense	34,340		21,543	12,797
Amortization Expense	2,815		1,766	1,049
Contractual Services - Misc.	18,052		11,325	6,727
Taxes	34,046		21,359	12,687
TOTAL	\$1,464,182	\$652,490	\$509,218	\$302,474

NORTH MERCER WATER DISTRICT

SUMMARY OF ALLOCATIONS

	TOTAL	COMMODITY	DEMAND	CUSTOMER
Plant Percentages	100.00%		86.53%	13.47%
Available For Debt Service	\$533,480.00		\$461,601.24	\$71,878.76
Depreciation Percentages	100.00%		86.64%	13.36%
Total Depreciation	342,648.00		296,856.20	45,791.80
Total Operation & Maintenance	1,464,182.00	\$652,490.00	509,218.25	302,473.75
REVENUE REQUIREMENT	\$2,340,310.00			
<i>Less: Other Operating Revenue</i>	<i>-63,514.00</i>			<i>-63,514.00</i>
<i>Less: Interest Income</i>	<i>-10,078.00</i>			<i>-10,078.00</i>
REVENUE REQUIRED FROM RATES	\$2,266,718.00	\$652,490.00	\$1,267,675.69	\$346,552.31

NORTH MERCER WATER DISTRICT CALCULATION OF WATER RATES

	TOTAL	FIRST 1,000	OVER 1,000
FROM BILLING ANALYSIS:			
COMMODITY PERCENTS	100.00%	20.38%	79.62%
ACTUAL COMMODITY SALES	221,799,670	45,208,000	176,591,670
PEAK DEMAND WEIGHTED FACTOR		2	1
PEAK DEMAND WEIGHTED SALES	267,007,670	90,416,000	176,591,670
DEMAND PERCENTS	100.00%	33.86%	66.14%
COMMODITY COSTS	\$652,490.00	\$132,992.84	\$519,497.16
DEMAND COSTS	\$1,267,675.69	\$429,269.19	\$838,406.50
CUSTOMER COSTS	\$346,552.31	\$346,552.31	
TOTAL COSTS	\$2,266,718.00	\$908,814.34	\$1,357,903.66
DIVIDE BY BILLS/GALLONS		49,876	176,591,670
CALCULATED RATES		\$18.22	\$7.69
		FIRST 1,000	OVER 1,000

*North Mercer Water District
P. O. Box 79
Salvisa, KY 40372

*Mischell Lee
North Mercer Water District
P. O. Box 79
Salvisa, KY 40372

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF FARMERS RURAL)	
ELECTRIC COOPERATIVE CORPORATION	)	CASE NO.
FOR AN INCREASE IN RETAIL RATES	)	2016-00365
)	

ORDER

On November 15, 2016, Farmers Rural Electric Cooperative Corporation (“Farmers”) filed an application seeking approval to adjust its base electric rates and to make changes to certain nonrecurring charges. Farmers proposes to adjust its base electric rates to increase its operating revenues by \$1,873,993.¹ Finding that an investigation would be necessary to determine the reasonableness of Farmers’ proposed increase, the Commission issued an Order on December 13, 2016, suspending the effective date of the proposed rates for five months, up to and including May 14, 2017, and establishing a procedural schedule for the processing of this matter.

The procedural schedule provided for, among other things, a deadline for intervention requests, two rounds of discovery upon Farmers and a formal evidentiary hearing. There are no intervenors in this proceeding. Farmers responded to four rounds of discovery from Commission Staff (“Staff”) and two rounds of post-hearing requests for information issued by Staff. The formal evidentiary hearing was conducted on March 29, 2017. Farmers submitted responses to post-hearing

¹ In response to Commission Staff’s Third Request for Information (“Staff’s Third Request”), the proposed increase was reduced from \$1,893,805 due to the removal of unallowable operating expenses for ratemaking purposes identified in discovery.

information requests on April 10, 2017, and April 17, 2017. The matter now stands submitted for a decision.

BACKGROUND

Farmers is a member-owned rural electric cooperative corporation, organized under KRS Chapter 279. It is engaged in the distribution and sale of electric energy to approximately 25,045 member-consumers in Adair, Barren, Edmonson, Grayson, Green, Hart, Larue, and Metcalfe counties, Kentucky.² Farmers does not own any electric generating facilities, but purchases its total power requirements from East Kentucky Power Cooperative, Inc.³ Farmers' last general rate adjustment was based on a settlement and was approved in June 2009.⁴

TEST PERIOD

Farmers proposed, and the Commission accepts, a historical 12-month period ended December 31, 2015, as the test period for determining the reasonableness of the proposed rates. In utilizing the historical test year, the Commission considers appropriate known and measurable changes.

² Annual Report of Farmers Rural Electric Cooperative Corporation to the Public Service Commission of the Commonwealth of Kentucky for the Calendar Year Ended December 31, 2015 (filed Mar. 30, 2016), at 45 and 53.

³ *Id.* at 40 and 43.

⁴ Case No. 2008-00030, *Application of Farmers Rural Electric Cooperative Corporation for an Adjustment in Rates* (Ky. PSC June 10, 2009).

VALUATION

Rate Base

Farmers determined a net investment rate base of \$63,277,446⁵ based on the adjusted test-year-end value of plant in service and construction work in progress (“CWIP”), the 13-month average balances for materials and supplies and prepayments, plus a cash working capital allowance, minus the adjusted accumulated depreciation and the test-year-end level of customer advances for construction (“Customer Advances”).

The Commission concurs with Farmers’ proposed rate base with the exception that working capital has been adjusted to reflect the pro forma adjustments to operation and maintenance expenses. With this adjustment, Farmers’ net investment rate base for ratemaking purposes is as follows:

Utility Plant in Service	\$ 86,525,960
CWIP	<u>662,102</u>
Total Utility Plant	87,188,062
Add:	
Materials & Supplies	779,564
Prepayments	286,943
Cash Working Capital	<u>651,182</u>
Total Additions	1,717,689
Deduct:	
Accumulated Depreciation	(25,640,619)
Customer Advances	<u>(347,450)</u>
Total Deductions:	(25,988,069)
Net Investment Rate Base	<u><u>\$ 62,917,682</u></u>

⁵ Application, Exhibit K at 2.

Capitalization and Capital Structure

The Commission finds that Farmers' capital structure at test-year-end was, for ratemaking purposes, \$65,871,228.⁶ This capital structure consisted of \$14,622,497 in equity and \$51,248,731 in long-term debt.⁷ The Commission excluded generation and transmission capital credits ("GTCCs") of \$24,003,706.⁸ Using this capital structure, Farmers' year-end ratio of equity to total capitalization was 22.20 percent.⁹

REVENUE AND EXPENSES

Twenty-four adjustments (ten were included in payroll-related expenses per the application) were proposed by Farmers to normalize its test-year operating revenues and expenses based upon Commission practice and precedent. The Commission finds the following adjustments proposed by Farmers are reasonable and should be accepted without change. Those adjustments are shown in the following table:

Salaries and Wages	\$ 105,044
Payroll Taxes (Excluding Benefits)	\$ 8,219
Depreciation	\$ 213,136
Retirement & Security Plan Costs	\$ 6,108
FAS 106 Costs	\$ 26,735
G&T Capital Credits	\$ 2,372,445
Normalize Revenue	\$ 119,608
Normalize Purchased Power	\$ 2,716,606
Remove FAC Revenue	\$ 1,910,752
Remove ESR Revenue	\$(4,802,473)
Property Tax Expense	\$ 28,332
Dues (Accts. 921.00 and 165.20)	\$ 2,490
Outside Services (Acct. 923.00)	\$ 24,281

⁶ Application, Exhibit K at 1.

⁷ *Id.*

⁸ *Id.*

⁹ \$14,622,497 ÷ \$65,875,228 = 22.20%.

The Commission finds that the remaining proposed adjustments should be modified as discussed in more detail below.

Other Revenue

In its response to Commission Staff's First Request for Information, Item 49, Farmers stated that \$1,578 of compensation expense was charged to its subsidiary, Farmers Energy Services Corporation. However, Farmers did not have a corresponding adjustment to its revenue requirement in the application. Therefore, the Commission finds that an adjustment shall be made to reduce Farmers' revenue requirement by \$1,578, as proposed by Farmers,¹⁰ to other revenue account.

Life and Dental Insurance

Farmers pays life insurance on behalf of its employees. Commission precedent requires that cooperatives be allowed to deduct the cost of coverage only up to \$50,000 per employee for ratemaking purposes. Based on the response to Commission Staff's Fourth Request for Information, Item 2.a., Farmers paid \$8,406 for life insurance coverage above the \$50,000 threshold, and the Commission finds this amount shall be denied for ratemaking purposes. The Commission encourages Farmers to collaborate with its employees to bring their contributions for life insurance to the levels discussed herein.

¹⁰ Farmers response to Commission Staff's First Post-Hearing Data Request (Staff's First Post-Hearing Request"), Item 10.

With respect to dental insurance, the Commission finds that Farmers' expenses should be reduced to reflect all employees contributing a 60 percent to the total dental premium. This is consistent with national employee participation averages.¹¹ Therefore, the Commission finds that Farmers dental insurance expense shall be decreased by \$30,116 to reflect this finding.

401(k)

Farmers has maintained the National Rural Electric Cooperative Retirement and Security Plan ("R&S") for employees who were hired before January 1, 2012. This plan was closed to new participants on December 31, 2011, and was replaced with a Defined Contribution 401(k) plan ("401(k)") in order to reduce costs. The cooperative pays 100 percent of the cost of the R&S plan. Employees under the R&S plan may also be allowed to participate in the 401(k), with Farmers matching up to 1 percent of the employee's contribution. For employees under the 401(k) plan only, Farmers provides a 6 percent contribution. If the employee contributes up to an additional 4 percent, Farmers will match the 4 percent up to a 10 percent maximum.

For ratemaking purposes, the Commission finds that Farmers should not be permitted to include matching contributions to the 401(k) plan, for employees already participating under the R & S plan as it creates an inequity among employees in the different plans. Accordingly, the Commission denies rate recovery of \$28,512 for the voluntary 401(k) plan for those employees already participating in the R & S plan.

¹¹ The Willis Benchmarking Survey, 2015, at 62–63.
(http://willis.com/mwg-internal/de5fs23hu73ds/progress?od=lozsydmbJ6UUSxKxrjVJW5NDCRkgZEZps6-AgHEVM_Y.)

Employee Contribution for Health Insurance

Farmers' employee health insurance plan provides for Single, Family, Employee and Spouse and Employee and Child(ren) coverage.¹² Farmers pays the monthly premiums for its employees with single coverage and requires employees with other types of coverage to pay \$149 per month or \$1,788 annually toward the premium cost.¹³

The Commission expects Farmers to continue its efforts to rein in expenses for employee benefits by establishing a policy limiting Farmers' contribution to health insurance premiums and requiring that all employees pay some portion of the premium. The Commission finds that Farmers should limit its contributions to its employees' health plans to percentages that are market competitive with other businesses. Accordingly, the Commission will for ratemaking purposes adjust test-year health expense for all employees based on the Bureau of Labor Statistics national average employee contribution rates.¹⁴

The Commission has reduced health insurance expense \$92,430,¹⁵ based on a 32 percent employee contribution rate for family, employee and spouse, and employee and child(ren) coverage and 21 percent employee contribution rate for single coverage.

¹² Application, Exhibit F, Schedule D, page 33 of 74.

¹³ Farmers' response to Commission Staff's Third Request for Information, Item 2.

¹⁴ Case No. 2016-00174, Electronic Application of Licking Valley Electric Cooperative Corporation for a General Rate Increase (Ky. PSC Mar 1, 2017).

¹⁵ Farmers' response to Commission Staff's Second Post-Hearing Information Request, Item 2.

Miscellaneous Expenses

Based on information provided by Farmers, the Commission Staff made the following adjustments to miscellaneous expenses for expenses that are not allowable for ratemaking purposes. Account 930.20, Miscellaneous General Expense was reduced by \$500,¹⁶ Account 930.23, Annual Meeting Expense was reduced by \$19,082,¹⁷ Account 426.10, Other Income Deductions was reduced by \$2,520¹⁸ and Account 930.30, Directors Expenses was reduced by \$992.¹⁹

Rate Case Expense

Farmers estimated its rate case expense at \$143,620 in its application.²⁰ It proposed to recover this expense through a three-year amortization period. In response to Staff's First Post-Hearing Information Request, Item 1, Farmers stated that its total rate case expense as of that date was \$157,941. The Commission finds this amount reasonable and that a three-year amortization of these expenses will result in an increase in operating expense of \$4,774 over the \$47,873 proposed in the application.

Public Service Company Assessment Fee ("Fee")

After adjusting the test year for the normalized Fee, the Commission finds that Farmers shall be allowed an increase in revenue to cover the cost of the Fee based on the increase granted herein. Accordingly, the Commission hereby grants an increase in revenue \$3,251 for this cost.

¹⁶ Farmers' response to Staff's Third Request, Item 9.b.

¹⁷ *Id.*, Item 9.c.

¹⁸ *Id.*, Item 10.

¹⁹ *Id.*, Item 19.

²⁰ Application, Exhibit F, Schedule G, at 42.

Depreciation Expense

Farmers requested a depreciation deduction of \$2,987,384 in its application. This included a proposed change to the depreciation rate for its Distribution Account 370, Automated Meter Reading (“AMR”), based upon a 15-year life. The Commission finds the depreciation requested is reasonable and approves the request including the change in the depreciation rate for the AMR based upon Commission precedent.²¹ However, in response to inquiries by Staff, Farmers states that it has not had a depreciation study conducted since its inception.²² While Farmers generally follows Rural Utilities Service (“RUS”) guidelines for depreciation rates, the Commission finds that Farmers should perform a depreciation study by the earlier of five years from the date of this Order or the filing of its next base rate case.

Interest Expense

Farmers proposed \$1,769,176 for interest expense on long-term debt in its application.²³ Farmers maintained that this amount should be used for ratemaking purposes due to the variable interest rates on its Federal Financing Bank debt. In response to Commission Staff’s Fourth Request for Information, Item 4., Farmers provided an update to its annualized cost of debt as of that date in the amount of \$1,730,638. Given that Commission precedent requires that actual rates be utilized in computing the annualized cost of debt, it finds that interest expense on long-term debt should be reduced by \$38,538 to reflect the current costs of its debt.

²¹ Case No. 2011-00096, *Application of South Kentucky Rural Electric Cooperative Corporation for an Adjustment of Rates* (Ky. PSC Mar. 30, 2012).

²² Farmers’ response to Commission Staff’s Second Request for Information, Item 4, and Farmers’ response to Staff’s First Post-Hearing Request, Item 4.

²³ Application, Exhibit F, at 1.

Pro Forma Adjustments Summary

The effect of the pro forma adjustments on Farmers' net income is as follows:

	<u>Actual</u> <u>Test Period</u>	<u>Pro Forma</u> <u>Adjustments</u>	<u>Adjusted</u> <u>Test Period</u>
Operating Revenues	\$ 46,700,668	\$ 1,578	\$ 46,702,246
Cost of Electric Service			
Operating Expenses	\$ 41,597,629	\$ (161,505)	\$ 41,436,124
Depreciation	\$ 2,744,248	\$ 213,316	\$ 2,957,564
Taxes - Other	\$ 662,286	\$ 26,410	\$ 688,696
Interest on Long-Term Debt	\$ 1,769,176	\$ (38,538)	\$ 1,730,638
Interest Expense - Other	\$ 11,144	\$ -	\$ 11,144
Other Deductions	\$ 2,830	\$ -	\$ 2,830
Total Cost of Electric Service	\$ 46,787,313	\$ 39,683	\$ 46,826,996
Utility Operating Margins	\$ (86,645)	\$ (38,105)	\$ (124,750)
Non-operating Margins, Interest	\$ 52,038	\$ -	\$ 52,038
Income from Equity Investments	\$ (12,108)	\$ -	\$ (12,108)
Non-operating Margins - Other	\$ 14,373	\$ -	\$ 14,373
Patronage Capital Credits	\$ 98,868	\$ -	\$ 98,868
NET INCOME	\$ 66,526	\$ (38,105)	\$ 28,421

REVENUE REQUIREMENTS

The actual rate of return earned on Farmers' net investment rate base established for the test year was 2.66 percent.²⁴ Farmers requests rates that would result in a Times Interest Earned Ratio ("TIER") excluding GTCCs of 2.0X²⁵ and a rate of return of 5.35 percent²⁶ on its proposed rate base of \$63,277,446. Farmers proposes

²⁴ $(\$86,645) \text{ (Utility Operating Margins)} + \$1,769,176 \text{ (Cost of Long-Term Debt)} = \$1,605,888 \div \$63,277,446 = 2.66\%$.

²⁵ Direct Testimony of Lance C. Schafer at 4.

²⁶ $\$3,385,181 \text{ (Requested Margin before deduction of interest expense on Long-Term Debt)} \div \$63,277,446 \text{ (Net Investment Rate Base)} = 5.35\%$.

an increase in base electric rates of \$1,873,993 to achieve a 2.0X TIER excluding GTCCs.

Farmers' actual TIER excluding GTCCs for the test period was 1.07X. Farmers' Operating Times Interest Earned Ratio ("OTIER") for the test period was 0.98X.²⁷ Farmers requests this rate adjustment in order to properly maintain and operate its distribution system, meet the terms of its mortgage agreement and to maintain its financial stability and integrity.²⁸

The TIER method for determining margins has been the approach utilized in the calculation of revenue requirement used by the Commission in electric distribution cooperative rate cases. Farmers is requesting a 2.0X TIER because of its deteriorating financial position and cost increases in its vegetation management program, labor costs, construction materials, maintenance costs, property taxes and depreciation.²⁹

Farmers' mortgage agreements with the RUS require the cooperative to maintain a TIER of 1.25X and an OTIER of 1.1X using the best ratios for two years out the three most recent years. Farmers has been compliant with its RUS mortgage covenants, but the test-year TIER and OTIER were below the thresholds listed above. Farmers also has debt with the National Rural Utilities Cooperative Finance Corporation ("CFC") which require a modified debt service coverage ratio ("modified DSC") of 1.35, based on the best ratios for two years out the three most recent years. Farmers is still compliant

²⁷ Application, Exhibit G-2, at 3.

²⁸ Application, Exhibit G-1, at 2.

²⁹ *Id.*

with its modified DSC requirement, but the test-year as well as calendar year 2016 ratios were below the threshold in the CFC mortgage covenant.

Based upon the pro forma adjustments found reasonable herein, the Commission has determined that an increase in Farmers' revenues from base rates of \$1,705,468 would result in a TIER of 2.00X. This additional revenue should produce net income of \$1,730,638. The Commission has determined that the above increase in revenues should result in an OTIER of 1.91X, which should allow Farmers to meet its mortgage requirements and service its mortgage debts. Based on the net investment rate base of \$62,917,682 found reasonable herein, this additional revenue should result in a rate of return on rate base of 5.3 percent.³⁰

PRICING AND TARIFF ISSUES

Cost of Service

Farmers filed a fully allocated cost-of-service study ("COSS") in order to determine the cost to serve each customer class and the amount of revenue to be allocated to each customer class. Having reviewed Farmers' COSS, the Commission finds it to be acceptable for use as a guide in allocating the revenue increase granted herein.

Revenue Allocation

The proposed rate design uses the COSS as a general guide for Farmers' rate class increases. Farmers proposed that all rate classes would see some type of increase, even if they were providing revenues in excess of the costs to serve, and that

³⁰ \$1,577,467 (Granted Margin) + \$1,730,638 (Normalized Interest on Long-Term Debt) = \$3,308,105 ÷ \$62,917,682 (Net Investment Rate Base) = 5.3%.

the increase for the residential rate class was not to exceed 5 percent.³¹ The results of the COSS indicated that Schedule C - Commercial & Industrial Service Rate > 50 kW, Schedule C - Time-of-Day Commercial Service, Schedule E - Large Industrial Rate, Schedule LPC-2 Large Power, and Schedule LPE-4 - Large Power Time-of-Day provide revenues in excess of the costs to serve. All other rate classes produce revenues approximately at or below their class cost to serve.³² Additionally, Farmers proposed to increase demand rates for rate classes whose demand rates were below East Kentucky Power Cooperative's ("EKPC") Schedule E-2 wholesale rate.

Rate Design

Farmers is proposing to allocate the proposed increase to all its rate classes with the increase placed on the customer and demand charges only. Farmers states that increasing the customer charge better matches the customer-related costs but the increase in the customer charge is still significantly less than the full cost recovery of the customer-related costs.³³ The only classes whose energy rate is increased are Schedule RM – Residential Off-Peak Marketing – Electric Thermal Storage ("ETS") and Rate Schedule CM – Small Commercial Off-Peak Marketing – ETS.

The Commission concludes that, for an electric cooperative that is strictly a distribution utility, there is merit to the argument that there is a need for a means to guard against the revenue erosion that often occurs due to the decrease in sales volumes that accompanies poor regional economics, changes in weather patterns, and the implementation or expansion of demand-side management and energy-efficiency

³¹ Application, Exhibit G-3, at 3.

³² *Id.*, Exhibit G-4, at 18.

³³ *Id.*, Exhibit G-3, at 5.

programs. Farmers' proposed increase in the residential customer charge from \$9.35 to \$14.00 results in a 50 percent increase, which supports the general principle of gradualism. All proposed customer charges are approved. The table below shows the current and proposed/approved customer charges for those classes with customers, along with the amounts supported by the COSS.

	<u>Current</u>	<u>Proposed</u>	<u>COSS Results</u>
Schedule R – Residential Service	\$9.35	\$14.00	\$31.19
Schedule R – Residential Service (Prepay)	\$9.35	\$14.00	\$31.19
Schedule C – Comm. & Indust. Service <50kW	\$11.42	\$21.32	\$47.95
Schedule C – Comm. & Indust. Service >50kW	\$51.93	\$105.00	\$93.88
Schedule C – Time-of-Day Commercial Service	\$60.26	\$105.00	\$93.88
Schedule D – Large Comm/Ind Opt Time-of-Day	\$51.93	\$105.00	\$86.50
Schedule E – Large Industrial Rate	\$1,142.46	\$1,142.46	\$93.88
Schedule LPC-2 – Large Power	\$1,088.00	\$1,288.00	\$86.50
Schedule LPE-4 – Large Power TOD Tariff	\$3,015.00	\$3,215.00	\$93.88

The Commission approves the proposed increases to demand rates for those rate classes whose demand rates are below EKPC's so as to match EKPC's Schedule E-2 Wholesale Rate. Due to lowering of the revenue requirement, as found through discovery, the decrease should be applied to the volumetric charges and the Commission finds it reasonable to allocate it proportionally across the rate classes. The two ETS rates are set at 60 percent of the energy rate for each respective class. Several of the LPC and LPE classes have no customers currently taking service. For those classes with no customers, a small decrease was applied to the energy charges in the same proportion as was applied to the LPC and LPE classes that have customers. Based on Farmers' average monthly residential usage of 1,092 kWh, the average monthly bill for residential customers will increase by \$4.49, from \$106.46 to \$110.95, or 4.22 percent.

Farmers' Management

The Commission commends Farmers' management for taking advantage of opportunities to reduce costs through personnel reductions, streamlined operations, future costs savings related to prepayment of its Retirement and Security Plan, and reductions in medical insurance cost. Other cooperatives should follow Farmers' example to ensure the safe and reliable delivery of electricity at the lowest possible cost.

SUMMARY

The Commission, after consideration of the evidence of record and being otherwise sufficiently advised, finds that:

1. The rates proposed by Farmers would produce revenues in excess of the amount found reasonable herein and should be denied.
2. The rates set forth in the Appendix to this Order are the fair, just, and reasonable and should be approved.
3. The rate of return and TIER granted herein will provide for Farmers' financial obligations.

IT IS THEREFORE ORDERED that:

1. The rates proposed by Farmers are denied.
2. The rates set forth in the Appendix to this Order are approved for services rendered by Farmers on and after the date of this Order.
3. Within 20 days of the date of this Order, Farmers shall file with this Commission, using the Commission's electronic Tariff Filing System, new tariff sheets

setting forth the rates and charges approved herein and reflecting their effective date and that they were authorized by this Order.

4. Farmers shall perform a depreciation study within five years from the date of this Order, or with the filing of its next rate case, whichever is earlier.

By the Commission

ENTERED
MAY 12 2017
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:



Executive Director

Case No. 2016-00365

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2016-00365 DATED **MAY 12 2017**

SCHEDULE R
RESIDENTIAL SERVICE

Customer Charge	\$	14.00
Energy Charge per kWh	\$	0.088779
Prepay Charge	\$	3.18

SCHEDULE R
RESIDENTIAL TIME-OF-DAY

Customer Charge	\$	19.65
On-Peak Energy Charge per kWh	\$	0.104529
Off-Peak Energy Charge per kWh	\$	0.060000

SCHEDULE C
COMM & INDUST SERVICE RATE <50 kW

Customer charge	\$	21.32
Energy Charge per kWh	\$	0.084055

SCHEDULE C
COMM & INDUST SERVICE RATE >50 kW

Customer Charge	\$	105.00
Demand Charge per kW	\$	7.89
Energy Charge per kWh	\$	0.064965

SCHEDULE C
COMMERCIAL TIME-OF-DAY

Customer Charge		
Single Phase	\$	21.32
Three Phase	\$	105.00
On-Peak Energy Charge per kWh	\$	0.117840
Off-Peak Energy Charge per kWh	\$	0.060000

SCHEDULE D
LARGE COMM/IND TIME-OF-DAY

Customer Charge	\$	105.00
Demand Charge per kW	\$	7.89
Energy Charge per kWh	\$	0.064880

SCHEDULE E
LARGE INDUSTRIAL

Customer Charge	\$1,142.46
Demand Charge per kW	\$ 7.89
Energy Charge per kWh	\$ 0.051512

SCHEDULE OL
OUTDOOR LIGHTING SERVICE

Monthly Rate:

175 Watt MV	\$ 9.72
175 Watt, shared MV	\$ 3.43
250 Watt MV	\$ 11.13
400 Watt MV	\$ 16.94
1000 Watt SV	\$ 30.12
100 Watt SV	\$ 9.99
150 Watt SV	\$ 11.70
250 Watt SV	\$ 15.94
400 Watt SV	\$ 20.60
1000 Watt SV	\$ 44.68
LED Lighting	\$ 9.88

SCHEDULE SL
STREET LIGHTING

Energy Charge per kWh	\$ 0.058840
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SCHEDULE LPC-1
LARGE POWER

Customer Charge	\$1,016.00
Demand Charge per kW	\$ 7.77
Energy Charge per kWh	\$ 0.057741

SCHEDULE LPC-2
LARGE POWER

Customer Charge	\$1,288.00
Demand Charge per kW	\$ 7.77
Energy Charge per kWh	\$ 0.055746

SCHEDULE LPC-3
LARGE POWER

Customer Charge	\$2,937.00
Demand Charge per kW	\$ 7.77
Energy Charge per kWh	\$ 0.054250

SCHEDULE LPC-4
LARGE POWER

Customer Charge	\$3,215.00
Demand Charge per kW	\$ 7.77
Energy Charge per kWh	\$ 0.051756

SCHEDULE LPC-5
LARGE POWER

Customer Charge	\$4,501.00
Demand Charge per kW	\$ 7.77
Energy Charge per kWh	\$ 0.049262

SCHEDULE LPB-1
LARGE POWER

Customer Charge	\$1,016.00
Demand Charge per kW	\$ 7.77
Demand Charge in excess of contract	\$ 9.98
Energy Charge per kWh	\$ 0.057882

SCHEDULE LPB-2
LARGE POWER

Customer Charge	\$1,288.00
Demand Charge per kW	\$ 7.77
Demand Charge in excess of contract	\$ 9.98
Energy Charge per kWh	\$ 0.055882

SCHEDULE LPB-3
LARGE POWER

Customer Charge	\$2,937.00
Demand Charge per kW	\$ 7.77
Demand Charge in excess of contract	\$ 9.98
Energy Charge per kWh	\$ 0.054382

SCHEDULE LPB-4
LARGE POWER

Customer Charge	\$3,215.00
Demand Charge per kW	\$ 7.77
Demand Charge in excess of contract	\$ 9.98
Energy Charge per kWh	\$ 0.051882

SCHEDULE LPB-5
LARGE POWER

Customer Charge	\$4,501.00
Demand Charge per kW	\$ 7.77
Demand Charge in excess of contract	\$ 9.98
Energy Charge per kWh	\$ 0.049382

SCHEDULE LPE-1
LARGE POWER TIME-OF-DAY

Customer Charge	\$1,016.00
Demand Charge per kW	\$ 6.62
On-Peak Energy Charge per kWh	\$ 0.067951
Off-Peak Energy Charge per kWh	\$ 0.059554

SCHEDULE LPE-2
LARGE POWER TIME-OF-DAY

Customer Charge	\$1,288.00
Demand Charge per kW	\$ 6.62
On-Peak Energy Charge per kWh	\$ 0.065961
Off-Peak Energy Charge per kWh	\$ 0.057554

SCHEDULE LPE-3
LARGE POWER TIME-OF-DAY

Customer Charge	\$2,937.00
Demand Charge per kW	\$ 6.62
On-Peak Energy Charge per kWh	\$ 0.064468

Off-Peak Energy Charge per kWh \$ 0.056054

SCHEDULE LPE-4
LARGE POWER TIME-OF-DAY

Customer Charge \$3,215.00
Demand Charge per kW \$ 6.62
On-Peak Energy Charge per kWh \$ 0.061980
Off-Peak Energy Charge per kWh \$ 0.053554

SCHEDULE LPE-5
LARGE POWER TIME-OF-DAY

Customer Charge \$4,501.00
Demand Charge per kW \$ 6.62
On-Peak Energy Charge per kWh \$ 0.059492
Off-Peak Energy Charge per kWh \$ 0.051054

SCHEDULE RM
RESIDENTIAL OFF-PEAK MARKETING - ETS

Energy Charge per kWh \$ 0.053267

SCHEDULE CM
SMALL COMMERCIAL OFF-PEAK MARKETING - ETS

Energy Charge per kWh \$ 0.050433

SCHEDULE NM
NET METERING

Customer Charge \$ 14.00
Energy Charge per kWh (purchased) \$ 0.08895

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF NOLIN RURAL ELECTRIC)
COOPERATIVE CORPORATION FOR A) CASE NO
GENERAL RATE INCREASE) 2016-00367

ORDER

On December 15, 2016, Nolin Rural Electric Cooperative Corporation (“Nolin”) tendered for filing its application for a proposed \$5,342,889 increase in its electric base rates. Nolin stated that the proposed increase was required in order to cover increases in costs for power, materials, equipment, labor, and other fixed and variable costs and to meet the terms of its mortgage agreement. By letter dated December 22, 2016, the Commission notified Nolin that its application was rejected as deficient. On January 4, 2017, Nolin tendered an amended application, and the amended application was deemed filed as of that date. In the amended application, Nolin proposed that the new rates become effective on February 3, 2017. Finding that an investigation would be necessary to determine the reasonableness of Nolin’s proposed increase, the Commission suspended the rates for five months, up to and including July 2, 2017.

BACKGROUND

Nolin is a member-owned rural electric cooperative corporation, organized under KRS Chapter 279, engaged in the distribution and sale of electric energy to approximately 34,703 member-consumers in Bullitt, Hardin, LaRue, Hart, Grayson,

Green, Taylor, Breckinridge, and Meade counties, Kentucky.¹ Nolin has no electric generating facilities; it purchases its total power requirement from East Kentucky Power Cooperative, Inc. (“EKPC”).²

The Commission granted a motion to intervene filed by the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention (“AG”). A procedural schedule was issued which provided for discovery upon Nolin, intervenor testimony, discovery upon intervenors, and a public hearing. Nolin responded to five rounds of discovery from Commission Staff (“Staff”), two rounds of discovery from the AG, one round of post-hearing requests for information issued by Staff, and one round of post-hearing requests for information issued by the AG. No intervenor testimony was filed. A public hearing was conducted on May 18, 2017. The matter now stands submitted for a decision.

TEST PERIOD

Nolin proposed and the Commission accepted a historical 12-month period ended April 30, 2016, as the test period for determining the reasonableness of the proposed rates. In utilizing the historical test year, the Commission considered appropriate known and measurable changes.

VALUATION

Rate Base

Nolin determined a net investment rate base of \$74,426,699³ based on the adjusted test-year-end value of plant in service and construction work in progress

¹ Nolin 2015 Annual Report (filed March 16, 2016) at 44 and 52.

² *Id.* at 39 and 42.

("CWIP"), the 13-month average balances for materials and supplies, and prepayments, plus a cash working capital allowance, minus the adjusted accumulated depreciation and the test-year-end level of customer advances for construction.

The Commission concurs with Nolin's proposed rate base with the exception that working capital has been adjusted to reflect the pro forma adjustments to operation and maintenance expenses. With this adjustment, Nolin's net investment rate base for ratemaking purposes is as follows:

Utility Plant in Service	\$ 111,359,858
CWIP	<u>1,738,456</u>
Total Utility Plant	\$ 113,098,314
ADD:	
Materials and Supplies	\$ 1,221,173
Prepayments	206,387
Working Capital	<u>1,267,293</u>
Subtotal	\$ 2,694,853
DEDUCT:	
Accumulated Depreciation	\$ 41,869,350
Customer Advances for Construction	<u>317,800</u>
Subtotal	\$ 42,187,150
 NET INVESTMENT RATE BASE	 <u>\$ 73,606,017</u>

Capitalization and Capital Structure

The Commission finds that Nolin's capital structure at test-year-end for ratemaking purposes was \$129,951,181. This capital structure consisted of \$29,406,403 in equity and \$100,544,778 in long-term debt. The Commission excluded generation and transmission capital credits ("GTCCs") of \$34,288,149. Using this

³ Application, Exhibit K, at 2 of 7.

capital structure, Nolin's test-year-end equity to total capitalization ratio was 23 percent.⁴

REVENUE AND EXPENSES

Nolin proposed several adjustments to revenues and expenses to reflect current and expected operating conditions.⁵ The Commission finds that 14 of the adjustments proposed by Nolin and not opposed by the AG are reasonable and should be accepted without change. Those adjustments are shown in the following table:

<u>Description</u>	<u>Adjustments</u>
Normalize Revenues	(3,710,472)
Normalize Purchase Power Costs	(4,146,380)
Depreciation Expense	383,944
Depreciation Expense - Transportation Clearing	10,895
Normalize Interest on Long-Term Debt	(7,866)
Interest - Other	(36,641)
Postretirement Benefits	32,440
Professional Services	(339,418)
Directors' Expenses	(84,157)
Donations	(34,604)
Advertising	(41,206)
EKPC Capital Credits	(3,474,463)
Remove Fort Knox Activity	(1,013,124)
Year-end customer adjustment	(131,086)

The Commission makes modifications to the remaining proposed adjustments as discussed below.

Salaries & Wages

Nolin proposed an adjustment of \$22,166⁶ to normalize total wages and salaries, of which \$4,824 was capitalized,⁷ \$16,230 was expensed, and \$1,114 was allocated to

⁴ Nolin's response to Commission Staff's Fourth Request for Information ("Staff's Fourth Request"), Item 2.

⁵ The proposed adjustments for Depreciation Expense – Transportation Clearing, Professional Services, and Directors' Expenses were revised through discovery.

⁶ Application, Exhibit 1.

Ft. Knox operations.⁸ Nolin's calculations for full-time employees were based on 2,080 hours. The calculations for its part-time employees were based on the number of hours actually worked during the test year. Test-year actual overtime hours were multiplied by 1.5 times the test-year-end wage rates. Employees who separated from Nolin during the test-year were removed from the normalized test year.

Nolin's normalized test year included one employee as a full-time employee who was subsequently identified as a part-time employee. Nolin proposed to include this employee in the normalized test-year as a part-time employee with 1,000 hours worked.⁹ This employee actually worked 773 regular hours and 64 overtime hours in the test year. Consistent with other part-time employees, the Commission recalculated the proposed adjustment to salaries and wages to include this employee in the normalized test year based on hours actually worked during the test year, and decreased the salaries and wages adjustment from \$16,230 to (\$1,476).

Nolin provided salary and benefit comparison data that was used to determine employee salaries, but the study was limited in scope. The Commission has begun placing more emphasis on evaluating how salary and benefits provided by electric cooperatives are determined, and their competitiveness in a broad marketplace, as opposed to wage and salary studies limited exclusively to electric cooperatives, electric

⁷ The capitalized portion reflects actual capitalized costs and payroll costs allocated to other accounts. The other accounts include amounts assigned to clearing, stores, transportation, and employee sick leave. Unless otherwise noted, references in this Order to "capitalized" reflect this combination of actual capitalized costs and other costs.

⁸ Adjustments were allocated between Nolin and Ft. Knox based on actual test-year payroll amounts.

⁹ Nolin's response to Commission Staff's Post-Hearing Request for Information ("Staff's Post-Hearing Request"), Item 6.

utilities, or other regulated utility companies.¹⁰ Future rate applications filed by Nolin will be required to include a formal study that provides local wage and benefit information for the geographic area where Nolin operates and must include state data where available.

Payroll Taxes

Nolin proposed to increase its payroll taxes by \$7,544,¹¹ based on the proposed normalization of wages and salaries and reflecting the Federal Insurance Contribution Act, Medicare, and federal and state unemployment wage limits and rates in effect at the test-year end. Of this amount, \$1,714 was capitalized, \$5,471 was expensed, and \$359 was allocated to Ft. Knox operations.¹² The Commission recalculated the proposed adjustment to payroll taxes to include the decrease in normalized test-year salaries and wages for the reclassification of an employee as part-time and to reflect the proper allocation factors,¹³ and has decreased the payroll tax adjustment from \$5,471 to \$2,670.

Retirement Benefits

Nolin provides pension benefits for substantially all employees through participation in the National Rural Electric Cooperative Association (“NRECA”) Retirement and Security (“R&S”) Program. R&S contributions are based on base wages at a rate determined by NRECA. Nolin’s plan discontinues coverage when an employee has accumulated 30 years of service, and contributions to the plan

¹⁰ See Case No. 2015-00312, *Application of Kenergy Corp. for a General Adjustment in Rates* (Ky. PSC Sept. 15, 2016) at 15.

¹¹ Application, Exhibit 2.

¹² *Id.*

¹³ Nolin’s response to Staff’s Fourth Request, Item 3.

discontinue at that time. The contribution rate increased from 24.53 percent of base wages in 2015 to 25.28 percent of base wages in 2016.¹⁴ Nolin originally proposed an increase of \$78,545 of which \$17,848 was capitalized, \$56,963 was expensed, and \$3,734 was allocated to Ft. Knox operations.¹⁵ Through discovery, it was determined that the original calculation excluded contributions for an employee,¹⁶ utilized actual test-year wages instead of normalized test-year wages,¹⁷ and included a part-time employee who is not eligible for Nolin's benefits package.¹⁸ The Commission recalculated the proposed adjustment to R&S contributions to include these corrections, and has increased the adjustment from \$56,963 to \$130,739.

Miscellaneous Expenses

Nolin proposed to reduce test-year expenses by \$18,408 to remove certain expenses not normally included for ratemaking purposes. The Commission agrees with the reductions proposed by Nolin. However, the Commission has identified additional adjustments that should be made. Miscellaneous expenses included an expenditure of \$3,090 for shirts for Nolin employees to wear while working at the annual meeting, and \$5,704 for Nolin logo clothing for employees not required to wear mandatory safety clothing. Nolin stated that shirts are provided for employees working at the annual meeting to identify the employees to its members, and employees wear these shirts

¹⁴ Application, Exhibit 6.

¹⁵ *Id.*

¹⁶ Nolin's response to Commission Staff's Third Request for Information ("Staff's Third Request"), Item 16.

¹⁷ Nolin's Response to Staff's Post-Hearing Request, Item 3.

¹⁸ *Id.*, Item 6.

after the annual meeting for similar reasons.¹⁹ Nolin states that clothing not related to the annual meeting is provided for identification purposes in fairness to employees that are not required to wear protective clothing.²⁰ The Commission believes that there are much less expensive alternatives for identifying cooperative employees (i.e., nametags or badges) than incurring an expenditure of this magnitude.²¹ The Commission believes these funds should be expended in a manner that provides a greater benefit to the ratepayers. Accordingly, the Commission will remove \$8,794 from miscellaneous expenses.

The Commission will also remove a total of \$7,283 from miscellaneous expenses related to refreshments and gifts to employees, retirement and holiday dinners, and bill credits awarded as prizes at the annual meeting that are traditionally excluded for ratemaking purposes.

It has been the Commission's practice to allow only the expenses of the cooperative's designated representative to attend the NRECA Annual Meeting unless it can be demonstrated the expenses were incurred for educational or training purposes for the attendees. Lacking such evidence in this case, the Commission will reduce miscellaneous expenses by \$8,634 to remove expenses related to three employees' and two directors' attendance at the NRECA Annual Meeting who were neither Nolin's designated NRECA representative nor speakers at the event. Finally, the Commission will also reduce miscellaneous expenses by \$1,613 to remove expenses related to

¹⁹ Nolin's response to Staff's Third Request, Item 3.s.

²⁰ *Id.*, Item 3.i.

²¹ See Application, Exhibit 10 at 6, line 12. Nolin expended only \$71.76 for "Employee Name Badges" for its annual meeting.

attendance at NRECA legislative conferences, which the Commission deems to be associated with lobbying activities.

Adding these additional items to Nolin's adjustment of \$18,408, the Commission has reduced miscellaneous expenses by a total of \$44,732.

Rate Case Expense

Nolin estimated its rate case expense at \$75,000. It proposed to recover this expense through a three-year amortization. This estimate did not include in-house labor. Throughout this proceeding, Nolin has been providing updates of the actual expenses incurred in presenting this rate case. As of May 31, 2017, Nolin had expended \$165,519 to prepare and process this rate case, and estimated it would incur an additional \$16,481 in legal and other fees for a total rate case expense of \$182,000.²² The Commission finds that a three-year amortization of these expenses is reasonable and will allow an increase in operating expense of \$60,667 to reflect the first year of the amortization for ratemaking purposes.

PSC Assessment

Nolin did not propose an adjustment to its PSC Assessment to reflect the effects of normalizing revenues and purchased power expense or the impact of its proposed revenue increase. The Commission has determined that an adjustment to the PSC Assessment to reflect the normalization of revenue and purchased power expense found reasonable herein is appropriate. Based on the 2016–2017 assessment rate, the adjustment results in a \$24,033 decrease in the PSC Assessment for the test year. The Commission has determined that an adjustment to the PSC Assessment based on the revenue increase being granted herein should also be calculated. This calculation

²² Nolin's response to Staff's Post-Hearing Request, Item 13.

results in an increase in the PSC Assessment of \$11,590. The total result of these adjustments is a decrease of \$12,443 in the PSC Assessment.

401(k) Matching Contributions

Nolin participates in the NRECA R&S program and matches employees' contributions to 401(k) plans, up to 2 percent for eligible employees.²³ The Commission believes that Nolin should take more aggressive steps to control compensation and benefit costs. The Commission accepts that all employees should have a fair and reasonable retirement benefit, but finds it excessive and not reasonable that Nolin continues to contribute to both the R&S Defined Dollar Benefit ("DDB") plan as well as a matching 401(k) plan. The Commission will allow Nolin to recover only the costs of the more expensive DDB for employees who participate in both the DDB and the matching 401(k) plan and the 401(k) plan for employees that no longer qualify for R&S contributions from Nolin. Accordingly, the Commission will remove for ratemaking purposes Nolin's test-year 401(k) contributions for employees who participated in both plans. Nolin's test-year expense for 401(k) contributions to these employees was \$104,709.²⁴ Recognizing the portion that would be capitalized, the Commission will remove \$99,731 from the test year for employee 401(k) plan expense.

Employee Contribution for Health and Life Insurance

Nolin currently pays 100 percent of the monthly premiums for health insurance for its employees and their spouses and dependents. Nolin also pays 100 percent of

²³ Nolin's Response to Staff's Third Request, Item 15.b.

²⁴ *Id.* Item 16, revised "Exhibit 6," and Nolin's response to Commission Staff's Fifth Request for Information ("Staff's Fifth Request"), Item 3, (Revised) Attachment 16A.

life insurance premiums for its employees.²⁵ The Commission expects Nolin to be more cognizant of controllable costs incurred at unreasonable levels including expenses associated with employee benefits, by establishing a policy of limiting Nolin's contribution to health insurance premiums and requiring that employees pay some portion of those premiums. The Commission finds that Nolin should limit its contributions to its employees' health care plans to percentages that are marketplace competitive in order to reduce excessive expenses. Accordingly, the Commission will adjust test-year health premiums based on national average employee contribution rates. The Commission has reduced health insurance premiums for family coverage by \$397,137, based on a 32 percent employee contribution rate, and for single coverage by \$11,563, based on a 21 percent employee contribution rate.²⁶ The Commission will accept the test-year expense for life insurance premiums in this case. However, any future Nolin rate increase request for cooperative paid life insurance premiums will be capped at the lesser of two times the employee's annual salary or \$100,000.

Reduction of Nonrecurring Charges

As discussed below, the Commission will reduce Nolin's nonrecurring charges for remote connections, disconnections, and reconnections. The reduction results in a decrease in test-year revenues of \$137,610.

²⁵ Nolin's response to Commission Staff's Second Request for Information ("Staff's Second Request"), Item 22.

²⁶ Bureau of Labor Statistics, Healthcare Benefits, March 2016, Table 4, private industry workers. (<https://www.bls.gov/ncs/ebs/benefits/2016/ownership/private/table10a.pdf>).

Pro Forma Adjustments Summary

The effect of the pro forma adjustments on Nolin's net income is as follows:

	<u>Actual Test Period</u>	<u>Pro Forma Adjustments</u>	<u>Adjusted Test Period</u>
Operating Revenues	\$69,728,403	\$ (6,134,704)	\$63,593,699
Operating Expenses	<u>68,485,045</u>	<u>(6,625,543)</u>	<u>61,859,502</u>
Net Operating Income	1,243,358	490,839	1,734,197
Interest on Long-Term Debt	3,024,787	(1,314,512)	1,710,275
Interest Expense-Other	41,086	(36,641)	4,445
Other Income and (Deductions) – Net	<u>1,340,891</u>	<u>(5,792,146)</u>	<u>(4,451,255)</u>
NET INCOME	<u>\$ (481,624)</u>	<u>\$ (3,950,154)</u>	<u>\$ (4,431,778)</u>

REVENUE REQUIREMENTS

The actual rate of return earned on Nolin's net investment rate base established for the test year was (1.25) percent.²⁷ Nolin requests rates that would result in a TIER excluding GTCCs of 2.00X and a rate of return of 3.23 percent on its proposed rate base of \$74,426,699. Nolin proposes an increase in revenues of \$5,342,889 to achieve a 2.00X TIER excluding GTCCs. Nolin's actual TIER excluding GTCCs for the test period was (0.31)X.²⁸ For the calendar years 2014 and 2015, it was 1.38X and (1.67)X, respectively.²⁹ After taking into consideration pro forma adjustments, Nolin would achieve a (1.59)X TIER excluding GTCCs without an increase in revenues.

Nolin is currently a 100 percent borrower with National Rural Utilities Cooperative Finance Corporation ("CFC"). CFC requires Nolin to maintain an Average Modified Debt Service Coverage Ratio ("MDSC") of at least 1.35, determined by averaging the

²⁷ Application, Exhibit K, at 3 of 7.

²⁸ *Id.*, at 6 of 7.

²⁹ *Id.*, at 6 of 7.

two highest annual ratios during the most recent three calendar years.³⁰ For the calendar years 2014, 2015, and 2016, it was 1.00, (0.05), and 0.53, respectively.³¹ Nolin's proposed revenue increase would result in a MDSC of 1.76.³² Nolin explained that it used the TIER method for determining its revenue requirements and increase in revenue, as this has been the approach used by the Commission in the past.³³

Given that Nolin is a borrower only from CFC, the Commission finds that determining revenue requirements based on TIER is not reasonable for Nolin, but believes it is more appropriate to base the revenue requirement on MDSC. The Commission has determined that a MDSC of 1.73 is reasonable and allows Nolin to meet its mortgage requirements and service its debt. Based upon the pro forma adjustments found reasonable herein, the Commission has determined that an increase in Nolin's revenues of \$4,969,492 would result in a MDSC of 1.73. This additional revenue should produce net income of \$1,539,247. The Commission has determined that the above increase in revenues should result in a TIER of 1.90X. Based on the net investment rate base of \$73,606,017 found reasonable herein, this additional revenue should result in a rate of return on rate base of 3.05 percent.

PRICING AND TARIFF ISSUES

Cost of Service

Nolin filed a fully allocated cost-of-service study ("COSS") in order to determine the cost to serve each customer class and the amount of revenue to be allocated to

³⁰ Application, Exhibit H-2, at 3 of 5.

³¹ Nolin's response to Staff's Third Request, Item 5, Attachment 5A.

³² *Id.*

³³ Nolin's response to Staff's Second Request, Item 3.c.

each customer class. Having reviewed Nolin's COSS, the Commission finds it to be acceptable for use as a guide in allocating the revenue increase granted herein.

Revenue Allocation

With the exception of Schedule 5, Security Lights, Nolin proposed an increase for every rate class that has customers, even if the class is already providing revenues in excess of the cost to serve. The results of the COSS indicated that the residential rate class (including Prepay) and the street lighting rate class provide revenues less than the cost to serve, while all other rate classes produce revenues in excess of their class cost to serve.³⁴ Nolin states that proposing rate increases for the over-contributing rate classes allows the proposed increase for the residential rate class to better reflect the results of the COSS and minimizes the impact of an increase for the residential rate class to the most reasonable possible extent.³⁵ Nolin also proposed to increase the demand charge for Schedule 3 – Large Power Rate to match the wholesale demand charge as the existing rate was below EKPC's schedule E-2 wholesale rate. The Commission finds that Nolin's proposed revenue allocation is reasonable for use in this case.

Rate Design

The proposed rate design uses the COSS as a general guide for Nolin's rate class increases and as noted above, Nolin is proposing to allocate the proposed increase to most rate classes. Schedule 1 – Farm and Home, Prepay Service, and Schedule 2 – Small Commercial and Small Power all receive a proposed increase in

³⁴ Nolin's response to Staff's Second Request, Item 7, Exhibit R, First Revision, at 38 and 40 of 44.

³⁵ *Id.*, Item 4.

both the customer and energy charge. Nolin states that increasing the customer charge better matches the customer-related costs, but the increase is still significantly less than the full cost recovery of the customer related costs.³⁶ Nolin proposes to consolidate the three-step energy rate for Schedule 3 – Large Power Rate and increase its customer charge. For Schedule 4 – Industrial Rate, Nolin also proposes to consolidate its three-step energy rate into one and to introduce a customer charge, as this rate class does not currently have a customer charge. Nolin proposes an increase in both the contract and excess-demand charges for Schedule 10 – Large Industrial Rate coupled with a decrease in the energy charge per kilowatt-hour (“kWh”). For Nolin’s Special Contract Rate 15, only a change in the customer charge is proposed.

The Commission concludes that, for an electric cooperative that is strictly a distribution utility, there is merit to the argument that there is a need for a means to guard against the revenue erosion that often occurs due to the decrease in sales volumes that accompanies poor regional economics, changes in weather patterns, and the implementation or expansion of demand-side management and energy-efficiency programs. However, the Commission believes that Nolin’s proposed 121 percent increase in the residential customer charge from \$9.04 to \$20.00 does not support the general principle of gradualism. For this reason, the Commission will approve a customer charge for the Residential rate class of \$13.50, an increase of approximately 50 percent. All other proposed customer charges are approved. The table below shows the current, proposed, and approved customer charges for those classes with customers, along with the amounts supported by the COSS.

³⁶ Application, Exhibit H-3, Direct Testimony of James Adkins, at 5.

	<u>Current</u>	<u>Proposed</u>	<u>Approved</u>	<u>COSS Results</u>
Farm, Home and Prepay	\$9.04	\$20.00	\$13.50	\$32.20
Small Commercial and Small Power	\$16.82	\$23.00	\$23.00	\$34.04
Large Power	\$28.50	\$35.00	\$35.00	\$84.43
Industrial Rate	-	\$42.50	\$42.50	\$91.93
Large Industrial	\$1,219.84	\$1,219.84	\$1,220.00	\$1,974.78
Special Contract	\$1,188.66	\$5,454.00	\$5,454.00	\$5,733.00

The Commission approves the proposed consolidation of the three-step energy rates into one energy rate for the applicable classes. Additionally, the Commission approves the proposed increase to demand rate Schedule 3 – Large Power Rate, whose demand rate is below EKPC’s so as to match EKPC’s Schedule E-2 Wholesale Rate.³⁷

The Commission believes that the daily rate for the Prepay Metering Program should be revised. The previous daily rate calculation from Case No. 2011-00141³⁸ included the cost of a prepay meter. Currently, Nolin’s AMI metering system is fully deployed and Nolin no longer incurs an additional cost for meters for the Prepay program, so the daily fee should be revised. In response to Staff’s Post-Hearing Data Request, Nolin submitted a revised prepay rate.³⁹ This revised prepay rate included a monthly labor expense of \$5.80. The addition of this monthly labor expense was not included in Case No. 2011-00141, and therefore will be disallowed. However, this disallowance reduces the monthly fee to \$0.00. The Commission believes that it is reasonable for some fee to be associated with the Prepay Program and will allow

³⁷ Nolin’s response to Staff’s Second Request, Item 23. The demand rate for Schedule 4 – Industrial Rate will remain below the wholesale cost as its billing demand revenue is currently recovering its wholesale demand related costs through its demand charge.

³⁸ Case No. 2011-00141, *Application of Nolin Rural Electric Cooperative Corporation for Approval of a Prepay Metering Pilot Program Tariff*, (Ky. PSC June 20, 2011).

³⁹ Nolin’s response to Staff’s Post Hearing Request, Item 26.

transaction fees to be associated with the daily prepay rate. In the most recent approved prepay application, Case No 2015-00337,⁴⁰ a total of three transactions per month were allowed. Each transaction was estimated to be \$1.05, for a total cost of \$3.15 per month.⁴¹ The Commission believes this to be a reasonable fee; therefore, Nolin should charge a daily fee of \$0.104 for the prepay program.⁴²

Due to the lowering of the revenue requirement, as a result of the adjustments found reasonable herein, the decrease will be applied to the volumetric charges and will be allocated proportionally amongst the rate classes. Based on Nolin's average monthly residential usage of 1,127 kWh, the average monthly bill for residential customers will increase by \$12.09, from \$105.91 to \$118.00 or 11.4 percent.

Nonrecurring Charges

As of July 18, 2016, Nolin's Advanced Metering Infrastructure ("AMI") meter project, as approved in Case 2014-00436,⁴³ was fully deployed and completed.⁴⁴ Nolin stated in its application in Case No. 2014-00436 that it projected cost savings related to the new AMI system, and specifically to costs associated with remote connections, disconnections, and reconnections ("connection fees"). In response to Staff's Post-Hearing Data Request, Nolin provided a cost justification of its connection fees. Nolin's response proposes a connection fee of \$17.00, a \$3.00 reduction from the current

⁴⁰ Case No. 2015-00337, *Application of Big Sandy Rural Electric Cooperative Corporation for Approval of a Prepay Metering Program Tariff*, (Ky. PSC Apr. 7, 2016).

⁴¹ *Id.*, Exhibit C, at 3.

⁴² $\$3.15/(365/12)=\0.104

⁴³ Case No. 2014-00436, *Application of Nolin Rural Electric Cooperative Corporation for an Order Pursuant to KRS 807 5:001 and KRS 278.020 Requesting the Granting of a Certificate of Public Convenience and Necessity to Install an AMI System*, (Ky. PSC Feb. 13, 2015).

⁴⁴ Response to Staff's Fourth Request, Item 23.

\$20.00 fee. Included in the cost justification are labor costs to process the connection request, and Nolin claims that this processing is estimated to take one-half hour. The Commission believes that this total processing time is inflated. In the most recent case approving connection fees, Case No. 2016-00169,⁴⁵ Cumberland Valley Electric, Inc. estimated one-fourth of an hour to process the service order for a remote disconnect/reconnect. The Commission believes that this is an acceptable time estimate. Recalculating Nolin's cost justification at the lower processing time reduces the proposed fee to \$10.00.⁴⁶

OTHER ISSUES

Unclaimed Capital Credits

Pursuant to KRS 272.291, Nolin may recover unclaimed capital credits, which were mailed to its member's last-known address as recorded in Nolin's records, returned by U.S. mail, and not claimed for a period of five years. KRS 272.291 provides that, when the capital credits have remained unclaimed for five years, the amounts may be placed in Nolin's income for the year in which such determination is made and redistributed to the current members for that year. The Commission expects that Nolin will place unclaimed capital credits into its income and redistribute those funds pursuant to the provisions of KRS 272.291.

⁴⁵ Case No. 2016-00169, *Application of Cumberland Valley Electric, Inc. for a General Adjustment of Rates*, (Ky. PSC Feb. 6, 2017).

⁴⁶ Total labor costs = $\$35.26 \times 0.25 = 8.82$, rounding up to \$10.00.

Depreciation Issues

Nolin's last depreciation study was prepared as of December 31, 1998.⁴⁷ The Commission has historically required electric utilities subject to its jurisdiction to regularly prepare depreciation studies. The Commission believes that it is appropriate to conduct a new depreciation study every five years to keep depreciation rates current and to minimize the impact of any changes that have occurred since the previous study. Accordingly, the Commission will require that Nolin perform a new depreciation study within five years from the date of this order, or in conjunction with its next rate case, whichever is earlier.

SUMMARY

The Commission, after consideration of the evidence of record and being otherwise sufficiently advised, finds that:

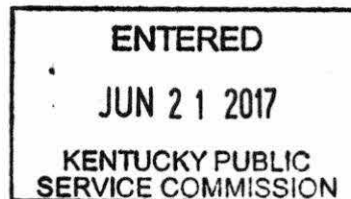
1. The rates proposed by Nolin would produce revenues in excess of the amount found reasonable herein and should be denied.
2. The rates set forth in the Appendix to this Order are the fair, just and reasonable rates for Nolin to charge for service rendered on and after the date of this Order and should be approved.
3. The rate of return, TIER, and MDSC granted herein will provide for Nolin's financial obligations.
4. As provided previously in this order, future rate applications must include a formal study that provides local wage and benefit information for the geographic area where Nolin operates and must include state data where available.

⁴⁷ Nolin's response to Staff's Fifth Request, Item 5.b.

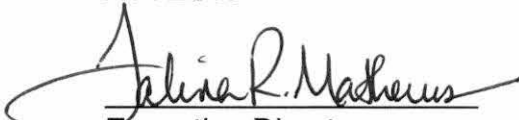
IT IS THEREFORE ORDERED that:

1. The rates proposed by Nolin are denied.
2. The rates set forth in the Appendix to this Order are approved for services rendered by Nolin on and after the date of this Order.
3. Within 20 days of the date of this Order, Nolin shall file with this Commission, using the Commission's electronic Tariff Filing System, new tariff sheets setting forth the rates and charges approved herein and reflecting their effective date and that they were authorized by this Order.
4. In future rate applications, Nolin shall perform a formal study that provides local wage and benefit information for the geographic area in which Nolin operates, and which shall include state data where available.
5. Nolin shall perform a depreciation study within five years from the date of this Order, or in connection with the filing of its next rate case, whichever is earlier.

By the Commission



ATTEST:


Executive Director

APPENDIX

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2016-00367 DATED **JUN 21 2017**

The following rates and charges are prescribed for the customers in the area serviced by Nolin Rural Electric Cooperative Corporation. All other rates and charges not specifically mentioned in this Order shall remain the same as those in effect under authority of this Commission prior to the effective date of this Order.

SCHEDULE 1

RESIDENTIAL, FARM, NON-FARM, TRAILERS AND MOBILE HOMES

Customer Charge	\$	13.50
Energy Charge per kWh	\$	0.09271
Prepay Charge per day	\$	0.104

SCHEDULE 2

COMMERCIAL, SMALL POWER, SINGLE PHASE AND THREE PHASE SERVICE

Customer Charge	\$	23.00
Energy Charge per kWh	\$	0.09213

SCHEDULE 3
LARGE POWER

Customer charge	\$	35.00
Demand Charge per Kw	\$	6.02
Energy Charge per kWh	\$	0.07386

SCHEDULE 4
INDUSTRIAL

Customer Charge	\$	42.50
Demand Charge per kW	\$	4.95
Energy Charge per kWh	\$	0.06515

SCHEDULE 5
SECURITY LIGHTS

Monthly Rate:

HPS 100 Watt	\$ 10.06
LED 70 Watt	\$ 9.51
Colonial Type 100 Watt HPS	\$ 13.07
Directional Flood Light 100 Watt HPS	\$ 8.82
Directional Flood Light 70 Watt LED	\$ 16.93
Directional Flood Light 250 Watt HPS	\$ 14.93
Directional Flood Light 108 Watt LED	\$ 17.75
Directional Flood Light 400 Watt HPS	\$ 20.33
Directional Flood Light 208 Watt LED	\$ 19.95
Contemporary Type 400 Watt HPS	\$ 21.80
30 Foot Fiber Glass Pole – Underground	\$ 10.63
25 Foot Wood Pole – Overhead	\$ 2.46
30 Foot Wood Pole – Overhead	\$ 2.84
25 Foot Wood Pole – Underground	\$ 3.44
30 Foot Wood Pole – Underground	\$ 3.83
Acorn Contemporary 400 Watt HPS	\$ 34.26
Santa Rosa Contemporary 150 Watt HPS	\$ 33.59
Santa Rosa Contemporary 150 Watt HPS (excludes light fixture and pole)	\$ 9.37
Temporary Meter Poles	\$ 20.00

SCHEDULE 6
STREET LIGHTING

Monthly Rate:

Standard Overhead Wood Pole	
HPS Fixture 100 Watt	\$ 10.18
HPS Fixture 250 Watt	\$ 15.43
HPS Fixture 400 Watt	\$ 20.13
LED Fixture 70 Watt	\$ 10.02
LED Fixture 108 Watt	\$ 11.69
LED Fixture 208 Watt	\$ 16.90
Ornamental Overhead Aluminum Pole	
HPS Fixture 100 Watt	\$ 23.09
HPS Fixture 250 Watt	\$ 27.41
HPS Fixture 400 Watt	\$ 31.28
Ornamental Underground (Fiberglass Pole)	
HPS Fixture 400 Watt	\$ 36.43
HPS Fixture 150 Watt Santa Rosa with Fluted Pole	\$ 35.41
HPS Fixture (Charge Exclude Light Fixture and Pole)	\$ 9.88

SCHEDULE 10
INDUSTRIAL

Customer Charge	\$1,220.00
Demand Charge	
Contract Demand per kW	\$ 7.17
Excess Demand per kW	\$ 9.98
Energy Charge per kWh	\$ 0.04966

SPECIAL CONTRACT
RATE 15 (INTERRUPTIBLE)

Customer Charge	\$5,454.00
Demand Charge	
Contract Demand per kW	\$ 6.98
Excess Demand per kW	\$ 2.78
Energy Charge per kWh	\$ 0.04313

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION FOR RATE ADJUSTMENT) CASE NO.
OF NEBO WATER DISTRICT) 2016-00435

NOTICE OF FILING OF COMMISSION STAFF REPORT

Notice is hereby given that, in accordance with the Commission's Order of January 13, 2017, the attached report containing the findings of Commission Staff regarding the Applicant's proposed rate adjustment has been filed in the record of the above-styled proceeding. Pursuant to the Commission's January 13, 2017 Order, Nebo 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.



Talina Mathews
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATE MAR 28 2017

cc: Parties of Record

STAFF REPORT
ON
NEBO WATER DISTRICT
CASE NO. 2016-00435

Nebo Water District (“Nebo 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 1,564 customers that reside in Hopkins County, Kentucky.¹ On December 15, 2016, Nebo District tendered an application (“Application”) to the Commission requesting 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 January 13, 2017.

Nebo 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, 2015, as required by 807 KAR 5:076, Section 9.

The rates requested by Nebo District would increase the monthly bill of a typical residential customer² by \$6.92, from \$35.99 to \$42.91, or approximately 19.23 percent, and would generate \$153,495 in additional annual water sales revenues, a 19.22 percent increase. Nebo District presented financial exhibits in the Application that show

¹ *Annual Report of Nebo Water District to the Public Service Commission for the Calendar Year Ended December 31, 2015 (“Annual Report”)* at 12 and 54.

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

how Nebo District calculated the amount of the requested revenue increase. The exhibits are summarized below in condensed form.

Pro Forma Operating Expenses	\$ 934,788
Plus: Average Annual Principal and Interest Payments	21,101
Additional Working Capital	<u>2,110</u>
Overall Revenue Requirement	957,999
Less: Other Operating Revenue	-
Interest Income	<u>(5,720)</u>
Revenue Required from Rates	952,279
Less: Pro Forma Present Rate Service Revenues	<u>(798,784)</u>
Required Revenue Increase	<u>\$ 153,495</u>
Percent Increase	<u>19.22%</u>

To determine the reasonableness of the rates requested by Nebo District, Staff performed a limited financial review of Nebo 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. Insignificant and immaterial discrepancies were not necessarily pursued or addressed.

Staff's findings are summarized in this report. Ariel Turnbull reviewed the calculation of Nebo District's Overall Revenue Requirement. Sam Reid reviewed Nebo 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 Nebo District's Overall Revenue Requirement is \$940,129 and that a \$109,430 revenue increase, or 13.65 percent, to pro forma present rate revenues is necessary to generate the Overall Revenue Requirement.

2. Water Service Rates. Nebo District proposes to increase its current water service rates by approximately 19.22 percent evenly across the board. Nebo District has not performed a cost-of-service study ("COSS"). 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 COSS. Staff finds that an across-the-board increase is the appropriate means to allocate the increased revenue requirement. The rates set forth in Attachment A of this report are based upon the revenue requirement as calculated by Staff and will produce sufficient revenues from water sales to recover the \$940,129 Revenue Requirement determined by Staff, an approximate 13.65 percent increase. These rates will increase a typical residential customer's monthly water bill from \$35.99 to \$40.90, an increase of \$4.91, or approximately 13.64 percent.

3. Depreciable Lives. In this report, Staff finds that the current depreciable lives assigned to some of Nebo District's assets should be revised for ratemaking purposes. Any depreciable lives approved by the Commission in this proceeding for rate making purposes should be used by Nebo 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 Statement

Nebo District's Pro Forma Operating Statement for the test year ended December 31, 2015, as determined by Staff, appears below.

	Test Year	Adjustment (Ref.)	Pro Forma
Operating Revenues			
Sales of Water	\$ 870,912	\$ (69,043) (A)	\$ 801,869
Miscellaneous Service Revenue	18,776	4,334 (A)	23,110
Total Operating Revenues	<u>889,688</u>	<u>(64,709)</u>	<u>824,979</u>
Operating Expenses			
Operation and Maintenance Expenses			
Salaries and Wages - Employees	181,046	(3,300) (B)	177,746
Salaries and Wages - Commissioners	13,200		13,200
Employee Pensions and Benefits	49,405		49,405
Purchased Water	470,068	31,364 (C)	
		(64,979) (D)	436,453
Purchased Power for Pumping	14,303		14,303
Materials and Supplies	38,632	(3,300) (B)	35,332
Contractual Services	16,130		16,130
Transportation Expenses	16,007		16,007
Insurance	17,458		17,458
Bad Debt Expense	1,626		1,626
Advertising Expenses	230		230
Regulatory Commission Expense	2,048		2,048
Miscellaneous Expense	25,757	(4,800) (E)	20,957
Total Operation and Maintenance Expenses	845,910	(45,015)	800,895
Taxes Other Than Income	16,750		16,750
	126,555	189 (B)	
Depreciation		(29,434) (F)	97,310
Total Operating Expenses	<u>989,215</u>	<u>(74,260)</u>	<u>914,955</u>
Net Operating Income	(99,527)	9,551	(89,976)
Interest Income	3,320		3,320
Nonutility Income	6,600	(4,200) (B)	2,400
Income Available to Service Debt	<u>\$ (89,607)</u>	<u>\$ 5,351</u>	<u>\$ (84,256)</u>

(A) Billing Analysis Adjustment. Nebo District provided a billing analysis with its Application that calculated water sales revenue based on water sales for the 12-month period ended October 16, 2016. During its review, Staff found that the billing analysis provided in the Application was based on information outside of the 2015 test period. Staff assisted Nebo District with the preparation of the normalized billing analysis set forth in Attachment B. The test-year normalized revenue for water sales

determined by Staff is \$801,869. The normalized billing analysis results in a decrease to test-year Sales of Water of \$69,043 and an increase to Miscellaneous Service Revenue of \$4,334. The required adjustments are explained as follows:

Reclassification of Revenue

Nebo District reported water sales revenue in its 2015 Annual Report of \$870,912. Nebo District included \$4,334 of Miscellaneous Service Revenue in water sales in its 2015 annual report. Staff reclassified the \$4,334 to other operating revenues.

Purchased Water Adjustment

Nebo District applied to the Commission for a rate increase pursuant to 807 KAR 5:068 and was granted the increase by Commission Order dated March 22, 2016, in Case No. 2016-00103,³ increasing test-year normalized revenues by \$25,332.

Adjustment for Reduced Sales

Subsequent to the test year, Nebo District experienced a reduction in water sales to coal industry customers. The billing analysis in Attachment B uses billing data from Nebo District's software for the test period and reflects the reduction in water sales, reducing test-year normalized revenues by \$90,041.

(B) Capitalization of Test-Year Meter Installations. During the test year, Nebo District installed six new 5/8-inch x 3/4-inch meter connections to its distribution system

³ Case No. 2016-00103, *Purchased Water Adjustment Filing of Nebo Water District* (Ky. PSC Mar. 22, 2016).

with an estimated total cost of \$6,600.⁴ Nebo District reported the entire cost of these installations as an expense in its books of original entry at the time they were constructed, and in turn failed to remove the expense and capitalize the installations as Plant in Service and depreciate their cost over their estimated useful lives, as required by the Uniform System of Accounts (“USoA”).⁵

To correct this accounting error in pro forma operations, Staff removed the estimated cost of these connections from test-year expenses and included a provision for their recovery in pro forma depreciation expense. Ideally, Staff would have reduced each of the expense accounts that contain installation costs by a portion of the capitalized costs, but, for simplicity, Staff decreased wages expense and materials and supplies expense, by \$3,300 each, or one half of the total estimated cost. Using this abbreviated method does not have a material effect on the results of Staff’s analysis of Nebo District’s operations. Staff increased pro forma depreciation expense \$189 to reflect the capitalization of the tap fees.⁶

⁴ Nebo District does not utilize a work-order system to track the actual cost of constructing new plant. Absent such a system, the actual cost of the meter installations is unknown and must be estimated. Staff estimated this cost to be \$6,600 by multiplying Nebo District’s current \$1,100 tap fee for a 5/8-inch x 3/4-inch meter installation by the number of new connections installed in 2015. Staff finds that this method produces a reasonable estimate of the total test-year meter installations costs, since the tap fee represents Nebo District’s average installations cost for a meter of this size.

⁵ USoA, Accounting Instruction 19 and 33.

⁶

Estimated Cost of Taps	\$ 6,600
Divide by: 35 Years	<u>35</u>
Adjustment to Pro Forma Depreciation	<u>\$ 189</u>

Additionally, Nebo District recorded the collections for its meter connections for the test year as Nonutility Income rather than transferring the balance to Account 215.2, Donated Capital, as required by the USoA.⁷ Staff decreased Nonutility Income by \$4,200, the amount that was collected during the test year.

(C) Increase to Wholesale Water Rate. Nebo District purchases wholesale water from the city of Madisonville (“Madisonville”) and Webster County Water District. Subsequent to the test year, Madisonville increased the wholesale rate charged to Nebo District. Madisonville’s current rate is \$4.13 per thousand gallons. Staff increased Nebo District’s test-year purchased water expense by \$31,264 to account for the current rate in pro forma operations.⁸

(D) Purchased Water Expense – Lost Revenue. In its Application, Nebo District requested to decrease its purchased water expense by \$23,812, stating this was due to a sharp decline in metered sales in 2016, which ultimately resulted in a reduced purchased water cost. During its review, Staff determined that Nebo District’s industrial accounts had experienced a sharp decline in water usage from the year ended December 31, 2015, compared to the year ended December 31, 2016. Nebo District stated that this was a result of a reduction of operations at local coal mines in the area.

⁷ USoA, page 86 and 87.

⁸

Water Purchased in 2015 (omit 000's)	121,412
Times: 2016 Rate	<u>\$ 4.13</u>
Purchased Water Cost	501,432
Less: Test Year	<u>(470,068)</u>
Adjustment	<u><u>\$ 31,364</u></u>

Staff agrees that Nebo District's revenue, as discussed above, should be adjusted downward according to the reduced customer usage, and a corresponding adjustment downward to purchased water expense should be made as well.

As calculated below, Staff determined from the reduced usage, adjusted for Nebo District's water loss, that a decrease of \$64,969 to purchased water expense is warranted.

Gallons of Water Not Sold	13,940,200
Times: Water Loss Adjustment	<u>1.128636</u>
Total Gallons of Water Not Sold	15,733,412
Divide by:	<u>1,000</u>
Gallons Not Sold (omit 000's)	15,733
Times: 2016 Purchased Water Rate	<u>\$ 4.13</u>
Downward Adjustment	<u><u>\$ 64,979</u></u>

(E) Incentive Pay. During the test year, Nebo District awarded its employees \$4,800, in the form of gift cards, which they termed as "Incentive Pay." It is the Commission's historic practice to exclude, for ratemaking purposes, annual bonuses that are paid to employees. Accordingly, Staff reduced Miscellaneous Expense by \$4,800 to remove the Incentive Pay from test-year operations.

(F) Depreciation. In its Application, Nebo District requested to adjust the lives of certain assets that appear on Nebo District's depreciation schedule for the year ended December 31, 2015. Among these assets were Structures and Improvements, Distribution Reservoirs, Transmission Mains, Meters and Meter Installations, Office Equipment, Transportation Equipment, Power Operated Equipment, and Communications Equipment. While Staff agrees with the adjustments to the lives that

were in Nebo District’s Application, Staff does not agree with the methodology used to generate the total depreciation expense adjustment in Nebo District’s Table A, “Depreciation Expense Adjustments.” Staff has recalculated the depreciation expense adjustment, using the lives proposed by Nebo District, but reverses the error in methodology made in its Application. Staff’s total adjustment is summarized below.

Adjustment to Account for Changes to Depreciable Lives	\$ (32,278)
Adjustment to Remove Test-Year Depreciation Expense on Assets that Had Become Fully Depreciated	(654)
Adjustment to Remove Effects of Negative Depreciation during the Test Year	1,548
Adjustment for New Asset Placed into Service	<u>1,950</u>
Total Adjustment to Test-Year Depreciation Expense	<u>\$ (29,434)</u>

Change to Depreciable Lives

In its Application, Nebo District requested to decrease depreciation in the total amount of \$30,615 to adjust the lives of certain water assets that were outside the ranges recommended by the National Association of Regulatory Utility Commissioners (“NARUC”) in its publication, “Depreciation Practices for Small Water Utilities” (“NARUC Study”).

The NARUC Study provides a range of average service lives that are assigned to water plant account groups by water utilities across the country that design, install, and maintain their water systems in accordance with good engineering practices. It concludes that the ranges are intended to be used as a guide by state regulatory commissions and other water utilities when developing depreciable lives to be assigned to water plant account groups. For example, the NARUC Study found that transmission

and distribution mains are depreciated between 50 and 75 years. Lives outside the NARUC ranges are acceptable when conditions warrant alternative lives.

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 either inside or outside of the NARUC ranges. The Commission has assigned lives at the short end and long end of the NARUC ranges when evidence is presented to support such lives. For example, in Case No. 2012-00309,⁹ the Commission found that Southern Water and Sewer District's mains should be depreciated using a 50-year life, the shortest life within the NARUC range, because the majority of its main had decayed at a more rapid rate than originally anticipated. In Case No. 2012-00413,¹⁰ the Commission accepted Staff's finding that the depreciable life assigned to Pendleton County Water District's mains should be 75 years because they were thought to be free of noticeable decay and in excellent condition.

When no evidence exists to support a specific life that is inside or outside the NARUC ranges, the Commission has used the mid-point of the NARUC ranges to depreciate utility plant. In Case No. 2013-00154, the Commission found that Henderson County Water District ("Henderson District") was depreciating the cost of some main using a 40-year life and others using a 50-year life. Even though the 50-year life is within the NARUC range, the Commission found that the depreciable life assigned to all of Henderson District's mains should be 62.5 years, the mid-point of the

⁹ Case No. 2012-00309, *Application of Southern Water and Sewer District for an Adjustment of Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities* (Ky. PSC July 12, 2013).

¹⁰ Case No. 2012-00413, Commission Staff Report on Pendleton County Water District (filed Oct. 29, 2012) at 10.

NARUC range, since no evidence was presented to support the 40-year or 50-year lives.¹¹

In its Application, Nebo District included a request to adjust the lives of its depreciable assets to put them within the NARUC range. Staff agrees that these adjustments to Nebo District's depreciable assets properly reflect, in all material respects, the lives that should be assigned to its assets for future reporting periods. Additionally, several assets that were either fully depreciated during the test year, or depreciated prior to the test year, were included in the Depreciation Expense Adjustments table in Nebo District's Application. Staff removed the items that were erroneously included and recalculated the adjustment to account for changes to depreciable lives as shown in Attachment C of this report. The changes made by Staff result in a decrease to depreciation in the amount of \$32,278.

Fully Depreciated Assets

Test-year depreciation expense reported on assets listed below resulted in their full depreciation as of the end of the test year. As a result, depreciation expense will not accrue on these assets in future reporting periods. Accordingly, Staff removed their depreciation from Nebo District's test-year expenses, resulting in a decrease to depreciation in the amount of \$654.

¹¹ Case No. 2013-00154, *Application of Henderson County Water District for an Alternative Rate Filing* (Ky. PSC Nov. 14, 2013) at Appendix B.

<u>Description Shown in Ledger</u>	<u>In Service Date</u>	<u>Test-Year Expense</u>
Office Building	10/01/85	\$ (492)
Meters	07/01/94	<u>(162)</u>
Total Expense Removed		<u>\$ (654)</u>

Negative Depreciation

Test-year depreciation expenses reported on assets listed below resulted in negative depreciation to be recorded during the test year. Nebo District did not have an explanation for this anomaly. Staff believes it was to correct a depreciation error in a prior year. Because this error would not occur normally, Staff removed the effects of the negative depreciation from Nebo District's test-year expenses, resulting in an increase to depreciation in the amount of \$1,548.

<u>Description Shown in Ledger</u>	<u>In Service Date</u>	<u>Test-Year Expense</u>
Booster Pump	07/01/93	236
Radio Modem	04/23/07	<u>1,312</u>
Total Expense Added		<u>\$ 1,548</u>

New Asset

During the test year, Nebo District recorded a new asset that was placed into service on December 1, 2015. Because the date the asset was placed into service was at the end of the test period, no depreciation was recorded in the test-year for this asset. Accordingly, Staff included an increase to test-year depreciation in the amount of \$1,950 to recognize the new asset, as calculated below.

<u>Asset</u>	<u>Original Cost</u>	<u>Staff Life</u>	<u>Current Depreciation</u>
Generator	\$34,127	17.5	\$ 1,950

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;¹² 3) the average annual principal and interest payments on all long-term debts; and 4) working capital that is in addition to depreciation expense.

A comparison of Nebo District's and Staff's calculations of Nebo District's Overall Revenue Requirement and Required Revenue Increase using the DSC method is shown below.

¹² 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).

	Nebo District	Staff	
Pro Forma Operating Expenses	\$ 934,788	\$ 914,955	
Plus: Average Annual Principal and Interest Payments	21,101	20,979	(1)
Additional Working Capital	2,110	4,196	(2)
	<hr/>	<hr/>	
Overall Revenue Requirement	957,999	940,129	
Less: Other Operating Revenue	-	(23,110)	
Interest Income	(5,720)	(5,720)	
	<hr/>	<hr/>	
Revenue Required from Rates	952,279	911,299	
Less: Pro Forma Present Rate Service Revenues	(798,784)	(801,869)	
	<hr/>	<hr/>	
Required Revenue Increase	<u>\$ 153,495</u>	<u>\$ 109,430</u>	
Percent Increase	<u>19.22%</u>	<u>13.65%</u>	

(1) Average Annual Principal and Interest Payments. Nebo District currently has two outstanding loans, one payable to the Kentucky Infrastructure Authority and one payable to the Kentucky Rural Water Finance Corporation ("KRWFC"). In its Application, Nebo District requested recovery of the five-year average annual principal and interest payments on these loans due in 2016 through 2020 in the amount of \$21,101. Staff finds, as shown below, that the average annual debt payment to be included in calculating Nebo District's Overall Revenue Requirement should be the five-year average of the annual principal and interest payments on these loans during the years 2017 through 2021, rather than the years 2016 through 2020 proposed by Nebo District. This five-year average of \$20,979 will allow Nebo District recovery of the debt

payments that will be made during the anticipated life of the rates authorized by the Commission in this proceeding.¹³

Five-Year Average of Debt Payments	
Year	Annual Debt Payment
2017	\$ 21,009
2018	20,521
2019	21,013
2020	21,464
2021	20,887
Total	104,894
Divide by: 5 years	5
Average Annual Principal and Interest Payment	\$ 20,979

(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, Nebo District requested recovery of an allowance for working capital that is equal to 110 percent of its average annual debt payments.

KRWFC requires that Nebo District charge rates that produce net revenues that are at least 120 percent of its average annual debt payments. Following the Commission's historic practice, Staff calculated Nebo District's allowance for additional

¹³ 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.

A review of the Commission's electronic docket system shows that Nebo District last adjusted its monthly water service rates pursuant to 807 KAR 5:001 Section 16, in Case No. 2007-00081, or, approximately ten years ago. Therefore, Staff finds that the anticipated life of the rates approved in this proceeding is five years.

working capital, based on a DSC ratio of 1.20, to be \$4,196, as shown below.¹⁴ Staff included this amount in the calculation of Nebo District's Overall Revenue Requirement.

Average Annual Principal and Interest	\$ 20,979
Times: DSC Coverage Ratio	<u>120%</u>
Total Net Revenues Required	25,174
Less: Average Annual Principal and Interest Payments	<u>(20,979)</u>
Additional Working Capital	<u>\$ 4,196</u>

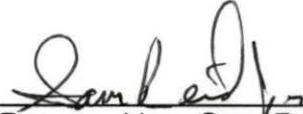
¹⁴ Inclusion of the additional working capital in Nebo District's revenue requirement is not necessary for it to earn revenues that meet the minimum DSC ratio required by its lenders. As depreciation is a noncash item, it is excluded from the ratio calculation, which is actually a measure of cash flow. As shown below, Nebo District's minimum DSC ratio is met with or without the inclusion of additional working capital.

	With Additional Working Capital	Without Additional Working Capital
Overall Revenue Requirement	\$ 940,129	\$ 935,933
Less: Operating and Maintenance Expense	(800,895)	(800,895)
Taxes Other Than Income	<u>(16,750)</u>	<u>(16,750)</u>
Net Revenues	122,484	118,289
Divided by: Average Annual Debt Payments	<u>20,979</u>	<u>20,979</u>
DSC Ratio	<u>584%</u>	<u>564%</u>

Signatures



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ATTACHMENT A

ATTACHMENT TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
 COMMISSION IN CASE NO. 2016-00435 DATED **MAR 28 2017**

Monthly Water Rates

5/8- x 3/4- Inch Meter

First	2,000	gallons	\$ 22.50	Minimum bill
Next	2,000	gallons	9.20	per 1,000 gallons
Next	6,000	gallons	8.70	per 1,000 gallons
Next	10,000	gallons	8.21	per 1,000 gallons
Over	20,000	gallons	7.70	per 1,000 gallons

1-Inch Meter

First	4,000	gallons	\$ 40.90	Minimum bill
Next	6,000	gallons	8.70	per 1,000 gallons
Next	10,000	gallons	8.21	per 1,000 gallons
Over	20,000	gallons	7.70	per 1,000 gallons

1 1/2-Inch Meter

First	10,000	gallons	\$ 93.10	Minimum bill
Next	10,000	gallons	8.21	per 1,000 gallons
Over	20,000	gallons	7.70	per 1,000 gallons

2-Inch Meter

First	20,000	gallons	\$ 175.20	Minimum bill
Over	20,000	gallons	7.70	per 1,000 gallons

3-Inch Meter

First	30,000	gallons	\$ 252.20	Minimum bill
Over	30,000	gallons	7.70	per 1,000 gallons

4-Inch Meter

First	50,000	gallons	\$ 406.20	Minimum Bill
Over	50,000	gallons	7.70	per 1,000 gallons

ATTACHMENT B

ATTACHMENT TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2016-00435 DATED **MAR 28 2017**

Normalized Billing Analysis for: Nebo Water District			
Test Period From:		1/1/15 - 12/31/15	
Rates per final order in PWA case 2016-00103			
Meter Size	Bills	Gallons Sold	Revenue
5/8 inch	18,345	68,402,485	648,842.48
5/8 multiple users	84	614,100	5,632.47
1 inch	203	1,816,300	15,969.03
1.5 inch	25	583,900	4,386.80
2 inch	96	8,274,300	61,383.78
4 inch	24	9,228,900	65,654.00
Totals	18,777	88,919,985	\$801,868.56

5/8 INCH METER									
	USAGE	BILLS	GALLONS	FIRST	NEXT	NEXT	NEXT	OVER	TOTAL
				2,000	2,000	6,000	10,000	20,000	
FIRST	2,000	5,198	5,583,300	5,583,300					5,583,300
NEXT	2,000	7,008	21,165,900	14,016,000	7,149,900				21,165,900
NEXT	6,000	5,518	31,397,885	11,036,000	11,036,000	9,325,885			31,397,885
NEXT	10,000	512	6,684,800	1,024,000	1,024,000	3,072,000	1,564,800		6,684,800
OVER	20,000	109	3,570,600	218,000	218,000	654,000	1,090,000	1,390,600	3,570,600
		18,345	68,402,485	31,877,300	19,427,900	13,051,885	2,654,800	1,390,600	68,402,485
REVENUE BY RATE INCREMENT									
		BILLS	GALLONS	RATE	REVENUE				
FIRST	2,000	18,345	31,877,300	\$19.79	\$363,047.55				
NEXT	2,000		19,427,900	8.10	157,365.99				
NEXT	6,000		13,051,885	7.65	99,846.92				
NEXT	10,000		2,654,800	7.22	19,167.66				
OVER	20,000		1,390,600	6.77	9,414.36				
TOTAL		18,345	68,402,485		\$648,842.48				

5/8 MULTIPLE USERS									
	USAGE	BILLS	GALLONS	FIRST	NEXT	NEXT	OVER	TOTAL	
				4,000	6,000	10,000	20,000		
FIRST	4,000	23	65,100	65,100					65,100
NEXT	6,000	42	299,900	168,000	131,900				299,900
NEXT	10,000	18	228,900	72,000	108,000	48,900			228,900
OVER	20,000	1	20,200	4,000	6,000	10,000	200		20,200
		84	614,100	309,100	245,900	58,900	200		614,100
REVENUE BY RATE INCREMENT									
		BILLS	GALLONS	RATE	REVENUE				
FIRST	4,000	84	309,100	\$39.58	\$3,324.72				
NEXT	6,000		245,900	7.65	1,881.14				
NEXT	10,000		58,900	7.22	425.26				
OVER	20,000		200	6.77	1.35				
TOTAL		84	614,100		\$5,632.47				

1 INCH METER									
	USAGE	BILLS	GALLONS	FIRST	NEXT	NEXT	OVER	TOTAL	
				4,000	6,000	10,000	20,000		
FIRST	4,000	91	155,400	155,400					155,400
NEXT	6,000	79	497,400	316,000	181,400				497,400
NEXT	10,000	12	171,900	48,000	72,000	51,900			171,900
OVER	20,000	21	991,600	84,000	126,000	210,000	571,600		991,600
		203	1,816,300	603,400	379,400	261,900	571,600		1,816,300
REVENUE BY RATE INCREMENT									
		BILLS	GALLONS	RATE	REVENUE				
FIRST	4,000	203	603,400	\$35.99	\$7,305.97				
NEXT	6,000		379,400	7.65	2,902.41				
NEXT	10,000		261,900	7.22	1,890.92				
OVER	20,000		571,600	6.77	3,869.73				
TOTAL		203	1,816,300		\$15,969.03				

1 1/2 INCH METER				FIRST	NEXT	OVER	
	USAGE	BILLS	GALLONS	10,000	10,000	20,000	TOTAL
FIRST	10,000	5	46,200	46,200			46,200
NEXT	10,000	12	158,500	120,000	38,500		158,500
OVER	20,000	8	379,200	80,000	80,000	219,200	379,200
		25	583,900	246,200	118,500	219,200	583,900

REVENUE BY RATE INCREMENT

	USAGE	BILLS	GALLONS	RATE	REVENUE
FIRST	10,000	25	246,200	\$81.89	\$2,047.25
NEXT	10,000		118,500	7.22	855.57
OVER	20,000		219,200	6.77	1,483.98
TOTAL		25	583,900		\$4,386.80

2 INCH METER

	USAGE	BILLS	GALLONS	FIRST	OVER	TOTAL
				20,000	20,000	
FIRST	20,000	43	332,300	332,300		332,300
OVER	20,000	53	7,942,000	1,060,000	6,882,000	7,942,000
		96	8,274,300	1,392,300	6,882,000	8,274,300

REVENUE BY RATE INCREMENT

	USAGE	BILLS	GALLONS	RATE	REVENUE
FIRST	20,000	96	1,392,300	\$154.09	\$14,792.64
OVER	20,000		6,882,000	6.77	46,591.14
TOTAL		96	8,274,300		\$61,383.78

4 INCH METER

	USAGE	BILLS	GALLONS	FIRST	OVER	TOTAL
				50,000	50,000	
FIRST	50,000	12	195,600	195,600		195,600
OVER	50,000	12	9,033,300	600,000	8,433,300	9,033,300
		24	9,228,900	795,600	8,433,300	9,228,900

REVENUE BY RATE INCREMENT

	USAGE	BILLS	GALLONS	RATE	REVENUE
FIRST	50,000	24	795,600	\$356.69	\$8,560.56
OVER	50,000		8,433,300	6.77	57,093.44
TOTAL		24	9,228,900		\$65,654.00

ATTACHMENT C

ATTACHMENT TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2016-00435 DATED **MAR 28 2017**

<u>Description Shown in Ledger</u>	<u>In Service Date</u>	<u>Original Cost</u>	<u>Depreciable Life</u>	<u>Pro Forma Expense</u>	<u>Less: Test Year</u>	<u>Adjustment</u>
Structures and Improvements						
Office Addition	07/01/96	\$ 17,280	40	\$ 432	\$ (576)	\$ (144)
Building	07/01/02	11,857	40	296	(395)	(99)
Fence	09/01/09	11,740	30	391	(587)	(196)
40 X 60 Building	06/01/10	19,200	40	480	(640)	(160)
Distribution Reservoirs						
Reservoirs	07/01/81	237,651	50	4,753	(5,941)	(1,188)
Reservoirs	07/01/91	1,066	50	21	(27)	(6)
Reservoirs	07/01/92	138,746	50	2,775	(3,487)	(712)
Reservoirs	07/01/93	4,484	50	90	(112)	(22)
Tank Rehab	06/01/12	118,462	25	4,738	(3,949)	789
Tank Rehab	06/01/04	39,600	20	1,980	(1,320)	660
Tank Rehab	09/01/04	49,964	20	2,498	(1,665)	833
Tank Rehab	04/01/07	175,288	20	8,764	(5,843)	2,921
Transmission and Distribution						
Mains	07/01/81	1,310,972	62.5	20,976	(32,774)	(11,798)
Mains	07/01/84	5,934	62.5	95	(148)	(53)
Mains	07/01/86	15,073	62.5	241	(377)	(136)
Mains	07/01/87	9,606	62.5	154	(240)	(86)
Mains	07/01/88	15,172	62.5	243	(379)	(136)
Mains	07/01/90	16,384	62.5	262	(410)	(148)
Mains	07/01/92	227,037	62.5	3,633	(5,676)	(2,043)
Mains	07/01/93	196,244	62.5	3,140	(4,906)	(1,766)
Mains	07/01/94	51,737	62.5	828	(1,293)	(465)
Mains	07/01/95	12,981	62.5	208	(325)	(117)
Mains	07/01/96	11,492	62.5	184	(287)	(103)
Mains	07/01/97	6,556	62.5	105	(164)	(59)
Mains	07/01/98	404	62.5	6	(10)	(4)
Mains	07/01/99	4,905	62.5	78	(123)	(45)
Mains	07/01/99	300	62.5	5	(8)	(3)
Mains	06/01/06	10,954	62.5	175	(274)	(99)
Mains	12/01/08	6,026	62.5	96	(151)	(55)
Mains	03/01/09	1,197	62.5	19	(30)	(11)
Line Extension	12/01/10	493,957	62.5	7,903	(12,349)	(4,446)
Motor	12/01/11	28,874	62.5	462	(722)	(260)
Line Extension	12/01/11	138,356	62.5	2,214	(3,459)	(1,245)
Line Extension	12/31/14	29,334	62.5	469	(733)	(264)

<u>Description Shown in Ledger</u>	<u>In Service Date</u>	<u>Original Cost</u>	<u>Depreciable Life</u>	<u>Pro Forma Expense</u>	<u>Less: Test Year</u>	<u>Adjustment</u>
Meters and Meter Installations						
Meters	07/01/09	14,171	35	405	(1,417)	(1,012)
Office Equipment						
Computer-Mark	06/30/10	600	10	60	(86)	(26)
Computer & Billing Software	06/30/11	14,320	10	1,432	(2,046)	(614)
Copier	06/30/11	1,078	10	108	(154)	(46)
Computer & Software	06/30/13	8,544	10	854	(1,221)	(367)
Transportation Equipment						
2014 Ford Pickup	09/15/14	28,801	7	4,114	(5,760)	(1,646)
2011 Ford F-350	06/30/11	35,277	7	5,040	(7,055)	(2,015)
Power Operated Equipment						
Boring Machine	11/01/10	10,282	10	1,028	(1,469)	(441)
Ditchwitch Trencher	06/30/11	19,000	10	1,900	(3,800)	(1,900)
Dump Bed	06/30/12	3,594	10	359	(719)	(360)
Excavator	06/30/14	67,320	10	6,732	(9,617)	(2,885)
Hobart Generator	12/18/14	850	10	85	(121)	(36)
Communications Equipment						
Radio Modem	06/01/11	2,665	10	267	(533)	<u>(267)</u>
Total Adjustment for Change to Depreciable Lives						<u>\$ (32,278)</u>

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION FOR RATE ADJUSTMENT	)	CASE NO.
OF NEBO WATER DISTRICT	)	2016-00435

ORDER

On December 15, 2016, Nebo Water District (“Nebo District”) tendered an application (“Application”) to the Commission requesting 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 January 13, 2017, which, among other things, required Commission Staff (“Staff”) to file a report containing its findings regarding the rates requested by Nebo District. The Attorney General (“AG”) filed a motion to intervene in this proceeding, and the Commission granted the AG’s motion to intervene by an Order entered on January 31, 2017.

On March 28, 2017, Staff issued a report (“Report”) summarizing its findings. In its Report, Staff found that Nebo District’s adjusted test-year operations support an overall revenue requirement in the amount of \$940,129 and that an annual revenue increase in the amount of \$109,430, or 13.65 percent, is necessary to generate the overall revenue requirement. Staff further found that the revenue increase should be distributed evenly among Nebo District’s current water service rates.

On April 5, 2017, Nebo District filed with the Commission its comments on Staff’s report wherein it agreed with Staff’s findings and requested that the case stand submitted to the Commission for a decision without holding an informal conference or a

formal hearing.¹ On April 11, 2017, the AG submitted written comments to the Staff Report. The AG stated that he “concur[s] with the Staff Report’s recommendation to lower the proposed revenue increase and encourages the District to continue managing expenses in light of the recent decline in revenue from the local coal industry.”² The AG stated that he did not believe a formal hearing to be necessary.³

BACKGROUND

Nebo Water District is a water district organized pursuant to KRS Chapter 74. It owns and operates a water distribution system through which it provides water service to approximately 1,564 customers that reside in Hopkins County, Kentucky.⁴ Nebo District does not produce any of its own water; rather, it purchases its water from the city of Madisonville and Webster County Water District. Nebo District’s last general rate adjustment occurred in April 2007.⁵

TEST PERIOD

The calendar year ended December 31, 2015, should be used as the test year to determine the reasonableness of Nebo District’s existing and proposed water rates, as required by 807 KAR 5:076, Section 9.

¹ Letter from J.E. Ellis, Chairman, Nebo Water District, to Talina R. Mathews, Executive Director, Public Service Commission (Apr. 5, 2017).

² AG’s Comments (filed Apr. 11, 2017) at 4.

³ *Id.*

⁴ *Annual Report of Nebo Water District to the Public Service Commission for the Calendar Year Ended December 31, 2015 (“Annual Report”)* at 12 and 54.

⁵ Case No. 2007-00081, *Application of Nebo Water District for Approval of Increased Rates for Water Service* (Ky. PSC Apr. 19, 2007).

MODIFICATIONS TO STAFF'S FINDINGS

Nebo District proposed three adjustments to revenues and expenses to reflect current and expected operating conditions. In its Report, Staff modified these adjustments and proposed additional adjustments. The Commission accepts the findings contained in the Staff Report except for the recovery of costs for employee health and dental insurance premiums as discussed below.

Employee Contribution for Health and Dental Insurance Premiums

Nebo District currently pays 100 percent of the monthly premiums for health insurance for its employees, their spouses, and dependents. Additionally, Nebo District currently pays 100 percent of monthly premiums for dental insurance. The Commission expects Nebo District to increase its efforts to reduce expenses related to employee benefits by establishing a policy that requires employees to pay a portion of their healthcare and dental insurance premiums. The Commission finds that Nebo District should exercise financial prudence and reduce expenses by limiting contributions to its employees' health care and dental plans to levels more commensurate with those of other businesses.

Accordingly, the Commission will adjust test-year expenses for health insurance premiums for employees based on national average employee contribution rates. The Commission has reduced expenses for health insurance premiums for salaried employees with family health coverage \$11,709, based on a 32 percent employee contribution rate, and for salaried employees with single coverage, \$996 based on a 21

percent employee contribution rate.⁶ The Commission has also reduced expenses for dental insurance premiums for employees \$956, based on a 60 percent employee contribution rate.⁷

DEPRECIATION

Nebo District presently uses service lives for various water assets that are at variance with those found in a survey of the National Association of Regulatory Utility Commissioners (“NARUC”) of “average service lives currently being used by water utilities throughout the country for water facilities designed and installed and maintained in accordance with good water works practice.”⁸ However, Nebo District’s application proposed to adjust all asset service lives to be within the range of service lives set forth in the NARUC Survey. The Commission has previously used the NARUC Survey to establish the service lives of water assets when there is no evidence in the record that supports alternative lives.⁹ Nebo District’s adjustment of service lives for water assets to conform to the NARUC Survey is reasonable, and should be used for ratemaking and accounting purposes in all future reporting periods.

⁶ Bureau of Labor Statistics, Healthcare Benefits, March 2016, Table 10, private industry workers. (<https://www.bls.gov/ncs/ebs/benefits/2016/ownership/private/table10a.pdf>).

⁷ The Willis Benefits benchmarking Survey, 2015, at 62. (https://www.willis.com/documents/publications/Services/Employee_Benefits/20151230_2015WillisBenefitsBenchmarkingSurveyReport.pdf).

⁸ National Association of Regulatory Utility Commissioners, *Depreciation Practices for Small Water Utilities* (Aug. 15, 1979) at 11.

⁹ Case No. 2006-00398, *Application of Northern Kentucky Water District for Approval of Depreciation Study* (Ky. PSC Nov. 21 2007); and Case No. 2012-00278, *Application of Graves County Water District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities* (Ky. PSC Sept. 5, 2012).

SUMMARY OF REVENUE AND EXPENSES

The Commission finds, based on its modifications to the findings of the Staff Report, Nebo District's pro forma operations should be as follows:

	Staff Pro Forma Operations	Commission Adjustments	Commission Pro Forma Operations
Operating Revenues	\$824,979		\$ 824,979
Operating Expenses	<u>914,955</u>	<u>(13,661)</u>	<u>901,294</u>
Net Operating Income	(89,976)	13,661	(76,315)
Interest Income	3,320		3,320
Nonutility Income	<u>2,400</u>		<u>2,400</u>
Income Available for Debt Service	<u>\$ (84,256)</u>	<u>\$ 13,661</u>	<u>\$ (70,595)</u>

REVENUE REQUIREMENTS

Based upon the Commission's findings and determinations herein, Nebo District requires an increase in revenues of \$95,769, or 11.94 percent above pro forma present rate revenues, as shown below:

Pro Forma Operating Expenses	\$901,294
Plus: Average Annual Principal and Interest Payments	20,979
Additional Working Capital	<u>4,196</u>
Overall Revenue Requirement	926,468
Less: Other Operating Revenue	(23,110)
Interest Income	<u>(5,720)</u>
Revenue Required from Rates	897,638
Less: Pro Forma Present Rate Service Revenues	<u>(801,869)</u>
Required Revenue Increase	<u>\$ 95,769</u>
Percentage Increase	<u>11.94%</u>

RATE DESIGN

Nebo District proposed to increase its current water service rates by an even, across-the-board percentage increase based on the percentage increase in revenue required from rates. The Commission finds that in the absence of a cost-of-service study, the proposed method is an appropriate and equitable method to allocate the increased cost to Nebo District's customers. The rates in the Appendix attached to this Order will produce water rate revenues of \$897,638, the revenue requirement determined reasonable by the Commission herein. The monthly bill of a typical residential customer using 4,000 gallons will increase from \$35.99 to \$40.29, an increase of \$4.30, or 11.95 percent.

SUMMARY

The Commission, after consideration of the evidence of record and being otherwise sufficiently advised, finds that:

1. The rates proposed by Nebo District would produce revenues in excess of the amount found reasonable herein and should be denied.
2. The rates set forth in the Appendix to this Order are the fair, just, and reasonable and should be approved.

IT IS THEREFORE ORDERED that:

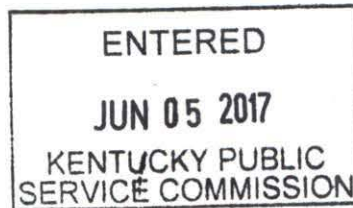
1. The rates proposed by Nebo District are denied.
2. The rates set forth in the Appendix to this Order are approved for services rendered by Nebo District on and after the date of this Order.
3. Within 20 days of the date of this Order, Nebo District shall file with this Commission, using the Commission's electronic Tariff Filing System, new tariff sheets

setting forth the rates and charges approved herein and their effective date, and stating that the rates and charges were authorized by this Order.

4. Nebo District shall use the Commission-approved service lives set forth in detail in Attachment C to the Staff Report, and as summarized below, to depreciate water plant assets for accounting purposes in all future reporting periods. No adjustment to accumulated depreciation, or retained earnings should be made to account for this change in accounting estimate.

Structures and Improvements	30, 40
Distributions Reservoirs	20, 25, 50
Transmission and Distribution Mains	62.5
Meters and Meter Installations	35
Office Equipment	10
Transportation Equipments	7
Power Operated Equipment	10
Communications Equipment	10

By the Commission



ATTEST:

Executive Director

APPENDIX

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2016-00435 DATED **JUN 05 2017**

The following rates and charges are prescribed for the customers in the area served by Nebo Water District. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of the Commission prior to the effective date of this Order.

Monthly Water Rates

5/8-Inch Meter

First	2,000 Gallons	\$ 22.15 Minimum Bill
Next	2,000 Gallons	9.07 Per 1,000 Gallons
Next	6,000 Gallons	8.57 Per 1,000 Gallons
Next	10,000 Gallons	8.08 Per 1,000 Gallons
Over	20,000 Gallons	7.58 Per 1,000 Gallons

1-Inch Meter

First	4,000 Gallons	\$ 40.29 Minimum Bill
Next	6,000 Gallons	8.57 Per 1,000 Gallons
Next	10,000 Gallons	8.08 Per 1,000 Gallons
Over	20,000 Gallons	7.58 Per 1,000 Gallons

1 1/2-Inch Meter

First	10,000 Gallons	\$ 91.71 Minimum Bill
Next	10,000 Gallons	8.08 Per 1,000 Gallons
Over	20,000 Gallons	7.58 Per 1,000 Gallons

2-Inch Meter

First	20,000 Gallons	\$ 172.51 Minimum Bill
Over	20,000 Gallons	7.58 Per 1,000 Gallons

3-Inch Meter

First	30,000 Gallons	\$248.31 Minimum Bill
Over	30,000 Gallons	7.58 Per 1,000 Gallons

4-Inch Meter

First	50,000 Gallons	\$ 399.91 Minimum Bill
Over	50,000 Gallons	7.58 Per 1,000 Gallons

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF WESTERN LEWIS)	
RECTORVILLE WATER AND GAS DISTRICT	)	CASE NO.
FOR RATE ADJUSTMENT FOR SMALL	)	2017-00074
UTILITIES PURSUANT TO 807 KAR 5:076)	

NOTICE OF FILING OF STAFF REPORT

Notice is hereby given that, in accordance with the Commission's Order of May 25, 2017, the attached report containing the findings of Commission Staff regarding the Applicant's proposed rate adjustment has been filed in the record of the above-styled proceeding. Pursuant to the Commission's May 25, 2017, Order, Western Lewis Rectorville Water and Gas District is required to file written comments regarding the findings of Commission Staff no later than 14 days from the date of this report.



John S. Lyons
Acting Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATED JUL 17 2017

cc: Parties of Record

STAFF REPORT
ON
WESTERN LEWIS RECTORVILLE WATER AND GAS DISTRICT
CASE NO. 2017-00074

Western Lewis Rectorville Water and Gas District (“Western Lewis”) provides gas service to approximately 527 residential and commercial/industrial customers residing in Lewis and Mason counties, Kentucky.¹ On February 14, 2017, Western Lewis tendered an application (“Application”) to the Commission pursuant to 807 KAR 5:076 requesting to adjust its base gas rates. After Western Lewis corrected filing deficiencies, its Application was accepted for filing on March 6, 2017.

To ensure the orderly review of the Application, the Commission established a procedural schedule by Order dated March 16, 2017. On May 11, 2017, Western Lewis moved for an extension of time to file its responses to Staff’s Second Request for Information (“Staff’s Second Request”), stating that it required the extra time to be able to fully and completely respond to Commission Staff’s (“Staff”) inquiries. In its May 25, 2017 Order, the Commission found good cause to grant Western Lewis’s request to file its responses to Staff’s Second Request on or before May 26, 2017, and extended the date the Staff Report would be issued from June 9, 2017 to July 10, 2017.

To comply with the requirements of 807 KAR 5:076,² Section 9, Western Lewis used the calendar year ended December 31, 2015, as the basis for its Application.

¹ *Annual Report of Western Lewis Rectorville Water and Gas District Gas Division to the Public Service Commission for the Calendar Year Ended December 31, 2015* (“2015 Annual Report”) at 9 and 26.

² The reasonableness of the proposed rates shall be determined using a twelve (12) month historical test period, adjusted for known and measureable changes, that coincides with the reporting period of the applicant’s annual report for the immediate past year.

Western Lewis calculated its requested revenue requirement using the operating ratio method historically accepted by the Commission.³ Pursuant to this method, the allowable revenue requirement is calculated by dividing pro forma operating expenses by 88 percent. Using operations reported for the test year, Western Lewis determined that a revenue increase of \$194,301, or 50.51 percent, is warranted.⁴ However, the base gas rates requested by Western Lewis will actually produce a revenue increase of \$383,384, or 466 percent over test-year revenues from base gas rates of \$82,255. According to Western Lewis, its requested rates would increase the monthly bill of an average customer by \$50.51, from \$29.58 to \$80.09, or approximately 171 percent.⁵

In the Application, Western Lewis provided financial exhibits in support of the Overall Revenue Requirement and Required Revenue Increase as summarized below.

³ An operating ratio measures the difference between operating revenues and operating expenses. It is defined by the following equation.

$$\text{Operating Ratio} = \frac{\text{Operation \& Maintenance Exp. + Depreciation + Taxes}}{\text{Gross Revenues}}$$

The Commission has found that the operating ratio is a reasonable and necessary alternative to the rate of return method for calculating the allowable NOI for small investor owned utilities. Specifically, it has found that the rate of return method cannot be used because there is "no basis" upon which to determine a rate of return for these utilities, Case No. 95-236, *Application of Thelma Waste Control, Inc. for a Rate Adjustment Pursuant to the Alternative Rate Filing Procedure for Small Utilities* (Ky. PSC. Apr. 15, 1996) at 6. Further, it has found that the operating ratio method is appropriate when plant investment is low and operating expenses are high, Case No. 7982, *Notice of Application of Fern Lake Company* (Ky. PSC. Aug. 27, 1981) at 3.

⁴ Application, ARF Form 1 – Attachment RR-OR – January 2014. \$578,962 (Total Revenue Requirement from Rates Service including PGA Revenues) - \$384,661 (Reported Test-Year Revenues including PGA Revenues) = \$194,301 ÷ \$384,661 = 50.51%.

⁵ *Id.* Customer Notice.

Pro Forma Income Statement

Account Titles	Test Year	Pro Forma Adjustments	Pro Forma Operations
Operating Revenues:			
Gas Service Revenues	\$ 384,661	\$ 143,568	\$ 528,229
Other Gas Revenues	10,000	-	10,000
Total Gas Operating Revenues	394,661	143,568	538,229
Operating Expenses:			
Operation and Maintenance Expenses:			
Other Gas Supply Expenses	174,148	-	174,148
Distribution Expenses	9,145	60,000	69,145
Administrative & General Expenses	237,261	23,300	260,561
Total Gas Operation & Maint Exp.	420,554	83,300	503,854
Depreciation	17,020	-	17,020
Taxes Other Than Income Tax	9,510	-	9,510
Total Gas Operating Expenses	447,084	83,300	530,384
Net Operating Income	\$ (52,423)	\$ 60,268	\$ 7,845

Revenue Requirement Calculation - Operating Ratio Method
as Presented by Western Lewis

Pro Forma Operating Expenses (Net of Purchased Gas Costs & Income Taxes)	\$ 356,236
Divide by: Operating Ratio	88%
Revenue to Cover Operating Ratio	404,814
Less: Pro Forma Operating Expenses (Net of Purchased Gas Costs & Income Taxes)	(356,236)
Net Income Allowable	48,578
Add: Pro Forma Operating Expenses before Income Tax	356,236
Cost of Natural Gas	174,148
Total Revenue Requirement - Base Rates and Customer Charges	578,962
Less: Other Operating Revenues	-
Total Revenue Requirement (Staff Base Rates)	578,962
Less: Operating Revenues (Less: Gas & Transportation Costs)	(384,661)
Revenue Increase	\$ 194,301

To determine the reasonableness of the rates requested by Western Lewis, Staff performed a limited financial review of Western Lewis'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. Insignificant and immaterial discrepancies were not necessarily pursued or addressed.

Staff is relying on the information gathered at the limited financial review and from Western Lewis's responses to its requests for information to develop its findings. Staff's findings are summarized in this report. Ariel Miller and Mark Frost reviewed the calculation of Western Lewis's Overall Revenue Requirement. Leah Faulkner and Matthew Baer reviewed Western Lewis's reported revenues and rate design.

Summary of Findings

1) Overall Revenue Requirement and Required Revenue Increase. By applying the Operating Ratio Method, as generally accepted by the Commission, Staff found Western Lewis's Overall Revenue Requirement to be \$118,789. A revenue increase of \$20,360, or 24.752 percent, above base gas rate revenues is necessary to generate the Overall Revenue Requirement.

2) Base Gas Rates. Staff recommends that the Commission approve the base rates set forth in Appendix A, as they will produce the recommended revenue requirement from base rates of \$102,615.

3) Allocation and Assignment of Costs Between the Divisions. In Case No. 2014-00266, Staff found that Western Lewis "did not make proper assignment and allocation of many transactions between its Water and Gas Division."⁶ Western Lewis was using an operating revenue factor to allocate its shared costs between the two

⁶ Case No. 2014-00266, *Application of Western Lewis-Rectorville Water & Gas District for Rate Adjustment for Small Utilities Pursuant to 807 KAR 5:076*, (Ky. PSC Nov. 7, 2014) at 3–4.

divisions. In its report, Staff made numerous adjustments to correct and to properly assign or allocate costs to the appropriate division by using a customer number allocation factor. Staff recommended that Western Lewis be required to revise its accounting procedures and internal controls so that proper assignment and allocations of revenues and expenses are recorded in the original books of entry in all future reporting periods.

In reviewing the supporting financial records, Staff discovered that Western Lewis continues to use an operating revenue factor to allocate costs between its water and gas divisions. Staff believes that the operating revenue factor does not result in an accurate allocation of costs between the two divisions. An increase in revenues in one division resulting from a rate increase should not directly impact the operational costs of that division.

Staff agrees with the findings that were made in the Staff Report in Case No. 2014-00266 and has reallocated the shared costs using the customer number allocation factor. In the test period, Western Lewis allocated 35 percent of the shared costs to its gas division, but by using the customer allocation factor, Staff is reducing the gas allocation factor to 19.143 percent.⁷ Commission finds that the reallocation of the operating expenses to Western Lewis's gas division will result in an overall decrease in the revenue requirement of \$85,708, as calculated in Attachment B.⁸

⁷ Customer Levels as of December 31, 2015

Gas Division	527	19.143%
Water Division	2,226	80.857%
Totals	2,753	100.000%

⁸ Western Lewis allocated 65% of the gas consultant cost to the water division. In its reallocation, Staff included 100% of this cost in the gas division's operating expenses.

Staff agrees with the findings in the Staff Report in Case No. 2014-00266, in that the Commission should direct Western Lewis to “make the necessary revisions to its accounting procedures and internal controls so that proper assignment and allocation of revenues and expenses are recorded in its books of original entry in all future reporting periods.”⁹ Staff believes that the Commission should also direct Western Lewis to submit in writing its agreement to the above requirement and to set a deadline by which it will submit its revised accounting procedures and internal controls for the Commission to review.

Pro Forma Operating Statement

The Pro Forma Operating Statement for the test year ended December 31, 2015, as determined by Staff, appears below.

	Test Year Operations	Reallocation Adjustments	Reallocated Test Year Operations	Pro Forma Adjustments	Adj. Ref.	Pro Forma Operations
Operating Revenues:						
Revenues - Base Gas Rates	\$ 384,661	\$ -	\$ 384,661	\$ (302,406)	A	\$ 82,255
Other Operating Revenues:						
Other Gas Revenues	10,000	0	10,000	6,174	B	16,174
Total Gas Operating Revenues	394,661	0	394,661	(296,232)		98,429
Operating Expenses:						
Operation and Maintenance Expenses:						
Salaries & Wages - Employees	90,297	(40,910)	49,387	(967)	C	48,420
Salaries & Wages - Commissioners	7,000	(3,171)	3,829	(3,829)	D	0
Retirement Expense	6,256	(2,834)	3,422	2,615	E	6,037
Purchased Gas	174,148	0	174,148	(174,148)	F	0
Purchased Power	18,592	(8,423)	10,169	(10,169)	G	0
Chemicals and Water Testing	3,390	(1,536)	1,854	(1,854)	H	0
Materials and Supplies	6,986	(4,312)	2,674	0		2,674
Professional Fees	9,065	6,142	15,207	(12,675)	I	2,532
Maintenance Expenses	8,113	(538)	7,575	(2,810)	J	4,765
Rental Expense	621	(281)	340	(340)	K	0
Insurance	32,075	(14,533)	17,542	(1,477)	L	16,065
Utilities and Telephone	1,752	(794)	958	0		958
Office and Program Expense	23,725	(10,748)	12,977	(5,905)	M	7,072
Total Gas Operation & Maint Exp.	382,020	(81,938)	300,082	(211,559)		88,523
Depreciation and Amortization	17,020	0	17,020	(5,560)	N	11,460
Taxes Other Than Income Tax	8,321	(3,770)	4,551	0		4,551
Total Gas Operating Expenses	407,361	(85,708)	321,653	(217,119)		104,534
Net Operating Income	\$ (12,700)	\$ 85,708	\$ 73,008	\$ (79,113)		\$ (6,105)

⁹ Final Order at 4.

(A) Operating Revenue – Base Rate. Western Lewis reported total test-period operating revenues from gas sales of \$384,661. Included in this amount are purchased gas costs and gas transmission fees. These costs are recovered by Western Lewis through its purchased gas adjustment and have been excluded for purposes of determining base rate revenue.

In 2015, Western Lewis reported gas sales of 39,017 Mcf,¹⁰ with 6,545 customer bills used in its billing analysis. By applying the gas sales to Western Lewis's current tariffed base rates and the test-period customer bills to the monthly customer charge of \$1.00, Staff calculates revenues from base gas rates of \$82,255. Staff is reducing Western Lewis's operating revenues from gas sales to eliminate the purchased gas costs and gas transmission fees.

(B) Other Gas Revenues. Western Lewis reported other gas operating revenues of \$10,000 in the test year. However, Staff determined that the actual test-year other operating revenues was \$16,174,¹¹ resulting in an increase to operating revenues of \$6,174.

(C) Lump-Sum Vacation Pay. In the test year, Western Lewis paid to its employees \$5,050 for their unused vacation. Western Lewis pays its full-time employees a lump-sum payment for any vacation time not used by the end of the calendar year. It is the Commission's historic practice to exclude, for ratemaking purposes, these type of

¹⁰ Response to Staff's Second Request, Item 1.

¹¹ \$2,145 (Connection Fes) + \$60 (Returned Checks) + \$2,700 (Meter Connection) + \$11,269 (Late Charges) = \$16,174.

employee payments. Accordingly, Staff is reducing Salaries and Wages – Employee Expense by \$967¹² to eliminate the vacation payout allocated to the gas division.

(D) Commissioner Fees. Western Lewis reported paying its commissioners \$20,000 in the test year. Because Western Lewis’s commissioners had obtained the six instructional hours of water district management training required by KAR 74.020(7)(a), the Board of Commissioners voted to increase their salaries during their August 11, 2015 meeting. However, KAR 74.020(6) requires:

. . . salary shall be fixed by the county judges/executive with the approval of the fiscal court; in multicounty districts, it shall be fixed by the agreement between the county judges/executive with the approval of their fiscal courts.

Western Lewis was unable to provide the required approval from the judges/executive with the fiscal courts in Lewis and Mason counties. For this reason, Staff is reducing the gas division’s operating expenses by \$3,829¹³ to eliminate the reallocated commissioner fees.

(E) Retirement Expense Pursuant to Governmental Accounting Standards Board (“GASB”) Statement No. 68 (“GASB 68”). Western Lewis provides pension benefits and post-retirement health care benefits to its employees by participating in the County Employee Retirement System (“CERS”). As a participating member, Western Lewis is required to contribute a percentage of its employee wages to CERS. The table below summarizes the CERS contribution rates for each of the previous six fiscal years beginning July 1.

¹² \$5,050 (Employee Vacation Payout) x 19.143% (Allocation Factor – Gas) =\$967.

¹³ \$20,000 (Commissioner Fees) x 19.143% (Allocation Factor – Gas) =\$3,829.

Fiscal Year Beginning July 1	Employer Contribution Rate
2011	16.93%
2012	18.96%
2013	19.55%
2014	18.89%
2015	17.67%
2016	17.06%

During the test year, Western Lewis contributed \$40,278 to CERS on behalf of its employees. Prior to the test year, Western Lewis was required to report annual pension costs and post-retirement health care costs pursuant to GASB Statement No. 27 (“GASB 27”). GASB 27 required that Western Lewis report its CERS contributions as employee retirement expense. GASB 27 did not require that Western Lewis report a liability on its financial statements for a portion of either CERS’s Net Pension Liability (“NPL”) or CERS’s underfunded post-retirement health care costs.

The accounting and reporting requirements for the CERS pension benefit changed during the test year due to the passage and implementation of GASB 68. The accounting for post-retirement health care costs did not change. Beginning in the test year, GASB 68 requires that Western Lewis report the following for pensions:

- 1) A charge against Retained Earnings to account for the cumulative effect of switching from GASB 27 to GASB 68;
- 2) Western Lewis’s proportionate share of the CERS NPL;
- 3) Deferred Inflow of Resources and Deferred Outflow of Resources related to pensions; and
- 4) Annual pension expense that includes:

- a. Pension contributions to CERS during the reporting period that were made prior to the NPL's measurement date;
- b. The amortization of Western Lewis's proportionate share of Deferred Outflow of Resources and Deferred Inflow of Resources related to pensions;
- c. Western Lewis's proportionate share of the plan's actuarially determined annual pension expense; and
- d. The increase or decrease that occurs during the reporting period to the amount of North Mercer's proportionate share of the CERS NPL.

To implement GASB 68 during the test year, Western Lewis relied on the results of the CERS actuarial valuation for the fiscal year ended June 30, 2014. Using the 2014 valuation, Western Lewis reported the following account balances to account for GASB 68 and its impact on Western Lewis's test-year beginning balance on Retained Earnings.¹⁴

NPL	\$ 244,000
Impact on Retained Earnings	(252,127)
Deferred Outflows	32,532
Deferred Inflows	27,000
Retirement Expense	17,875

In Case No. 2016-00163,¹⁵ after considering the effects of GASB 68 on Marion County Water District's ("Marion District") test-year operations, the Commission found that, except for the NPL, the difference between the amounts reported for retirement costs

¹⁴ Note that Western Lewis's implementation of GASB 68 resulted in its reporting of test-year retirement expense in the amount of \$17,875, or \$22,403 less than the amount of its actual test-year contributions to CERS that were allocated to the CERS pension fund.

¹⁵ Case No. 2016-00163, *Alternative Rate Adjustment Filing of Marion County Water District* (Ky. PSC Nov. 10, 2016).

pursuant to GASB 68 and those that would have been reported pursuant to GASB 27 should be accounted for as a regulatory asset, as allowed by GASB 62. The Commission found that its method would mitigate the impact of GASB 68 on Marion District's Balance Sheet. Taking such action would smooth the level of annual retirement expense reported by Marion District in future reporting periods because the annual expense would always be equal to the amount of Marion District's contributions to CERS, which historically have been fairly constant.

Staff finds that the method of accounting for retirement costs applied by the Commission to Marion District will provide the same benefits to Western Lewis and should, therefore, be applied in this proceeding. Application of the Commission's method to Western Lewis's audited retirement costs requires the following journal entry:

	<u>Dr.</u>	<u>Cr.</u>
Regulatory Asset	\$ 244,000	
Deferred Inflows	27,000	
Retirement Expense	13,659	
Retained Earnings		\$ 252,127
Deferred Outflows		32,532

The above journal entry results in the Staff adjusted account balances shown below:

Regulatory Asset	\$ 244,000
NPL	244,000
Impact on Retained Earnings	
Deferred Outflows	
Deferred Inflows	
Retirement Expense	31,534

By applying the customer allocation factor to the restated test-year retirement expense of \$31,534, Staff increased the gas division’s allocated retirement expense by \$2,615.¹⁶

(F) Natural Gas Purchases and Transmission Fees. Western Lewis reported net natural gas purchases and transmission fees of \$174,148. Given that the natural gas purchases and transmission fees are recovered through Western Lewis’s purchased gas adjustment, Staff reduced operating expenses by \$174,148 to exclude these costs from the determination of Western Lewis’s revenue requirement.

(G) Purchased Power. In the test year, Western Lewis allocated to its gas division \$18,592 of the purchased power that was used to pump water. The reallocation of the shared expenses in Attachment B reduces the gas division’s allocation of purchased power expense to \$10,169. Since this expense is a direct cost of the water division, Staff reduced operating expenses by \$10,169 to remove this cost from the gas division’s operations.

(H) Chemicals. In the test year, Western Lewis allocated to its gas division \$3,390 for water chemical and testing. The reallocation of the shared expenses in Attachment B reduces the gas division’s allocation of chemical expense to \$1,854. Since

¹⁶

Restated Retirement Expense	\$ 31,534
Times: Number of Customer Allocation Factor	<u>19.143%</u>
Retirement Expense Allocated to Gas	6,037
Less: Reallocated Test Year Operations	<u>(3,422)</u>
Adjustment	<u>\$ 2,615</u>

these expenses are direct costs of the water division, Staff reduced operating expenses by \$1,854 to remove these costs from the gas division's operations.

(I) Gas Consultant. On May 20, 2015, Western Lewis entered into a contract with RussMar Utility Management ("RussMar") wherein RussMar agreed to provide the following services: (1) an annual leakage survey; (2) annual regulator inspections; (3) annual valve inspections; (4) annual CP readings; (5) public awareness program implementation; and (6) submission of annual PHMSA report(s).¹⁷ The contract requires Western Lewis to pay RussMar \$1,750 per month in the initial year of the contract and \$1,300 per month in the remaining two years of the contract term.

Western Lewis proposed to increase its test-year operating expenses by \$18,300 to reflect the costs of the RussMar contract. Western Lewis explained that it had blended the monthly fees of \$1,750 and \$1,300 to calculate its pro forma adjustment. In response to a Staff interrogatory, Western Lewis stated that \$12,675 of the gas consultant fee was already included in the test-year operating expenses and revised its proposed adjustment to an expense increase of \$6,500.¹⁸

The Commission's Division of Inspections conducted a periodic inspection of Western Lewis's gas system on June 13–16, 2017. In its report that was released on June 26, 2017, Western Lewis was cited for seven deficiencies. Western Lewis stated in its Application that it expected RussMar to provide it with the required training that would keep the District up to date on current laws and regulations relating to gas service.¹⁹ Staff

¹⁷ Response to Commission Staff's First Request for Information, Item 17.d.(2).

¹⁸ Response to Staff's Second Request, Items 11.a. and 11.b.

¹⁹ Application, References, ARF Form 1 – Attachment SAO-G-September 2011 at 2.

finds that the seven cited deficiencies is evidence that the contract with RussMar is not providing Western Lewis with the expected operational benefits. Accordingly, Staff is reducing operating expenses by \$12,675 to remove the recorded test-year payments to RussMar and finds that Western Lewis's adjustment should be denied.

(J) Maintenance. Western Lewis reported \$7,575 for test-year maintenance expense. Western Lewis stated that:

Water expense related to water taps were removed from test-year expenses and capitalized on Western Lewis' depreciation schedule, as they were over the \$5,000 capitalization threshold. The gas taps were removed from income and included as Contributions In Aid – Customer Taps, however, they were not removed from Materials and Supplies: Gas expenses in the amount of \$2,810.²⁰

When it depreciated the cost of its water taps, Western Lewis recognized that the cost of a tap is a capital expenditure that should be depreciated rather than recorded as an expense. Accordingly, Staff is reducing the gas division's maintenance expense by \$2,810 to remove the cost of the test-year gas taps. The depreciation of the gas taps is contained in Item M below.

(K) Rental of Equipment. In the test year, Western Lewis allocated to its gas division \$621 of the equipment rental expense. The reallocation of the shared expenses in Attachment B reduces the gas division's allocation of equipment rental expense to \$340. This expense represents costs that were associated with maintenance of the water division. Accordingly, Staff reduced operating expenses by \$340 to remove this cost from the gas division's operations.

²⁰ Response to Staff's Second Request, Item 8.d.

(L) Insurance. In the test year, Western Lewis reported paying \$36,747 in employee health insurance premiums, of which \$12,861 was allocated to the gas division. The reallocation of the shared expenses in Attachment B reduces the gas division's allocation of Insurance expense to \$7,034. Western Lewis currently pays 100 percent of the cost of each employee's single health insurance benefit, and it requires the employees to pay for any additional coverage.²¹ All of Western Lewis's employees have opted for single health insurance coverage.

In recent decisions, the Commission has found that utilities should exercise financial prudence and reduce operating expenses by limiting their contributions to their employees' health care plans to levels more commensurate with those of other businesses.²² To comply with the Commission's current practice, Staff is adjusting Western Lewis's test-year expenses for employee single health insurance premiums by 21 percent,²³ the national average employee contribution rate. A 21 percent reduction results in a decrease to allocated employee health insurance expense of \$1,477.²⁴

(M) Office and Program Expense. In the test year, Western Lewis reported the payment of \$67,788 in office program expenses, of which \$23,725 was allocated to the

²¹ Responses to Staff's First Request for Information, Item 11.

²² See Case No. 2016-00325, *Electronic Application of North Mercer Water District for Rate Adjustment made Pursuant to 807 KAR 5:076* (Ky. PSC May 19, 2017) at 2 and 3. See Case No. 2016-00435, *Application for Adjustment of Nebo Water District* (Ky. PSC June 5, 2017) at 3.

²³ Bureau of Labor Statistics, Healthcare Benefits, March 2016, Table 10, private industry workers. (<https://www.bls.gov/ncs/ebs/benefits/2016/ownership/private/table10a.pdf>)

²⁴ \$36,747 (Employee Health Insurance Expense) x 21% (Employee Contribution Rate) = \$7,717 x 19.143% = \$1,477.

gas division. The reallocation of the shared expenses in Attachment B reduces the gas division's allocation of office and program expense to \$12,977.

Subsequent to the test year, Western Lewis discontinued the use of contract labor to read its meters and began using its full-time employees. In the test year, Western Lewis paid \$30,847 to an outside contractor to perform the meter reading function. Staff is reducing office and program expense by \$5,905²⁵ to remove the allocated contract meter reading cost from the gas division's operating expenses.

(N) Depreciation. In its application, Western Lewis reported a test-year depreciation expense of \$17,020,²⁶ but attached a depreciation schedule to its Application supporting a test-year depreciation expense of \$7,853.²⁷ Western Lewis agreed that the correct test-year depreciation is \$7,853 rather than the amount that was reported in its Application.²⁸

Western Lewis proposed to increase the gas division's operating expenses by \$60,000 to reflect "Repairs and Maintenance; Gas line extension/Rebuilding regulator station."²⁹ In its response to a Staff interrogatory, Western Lewis stated that the proposed maintenance expense increase was actually capital expenditures that should be

²⁵ \$30,847 (Outside Contract Labor) x 19.143% (Customer Allocation Factor) = \$5,905.

²⁶ Application, Schedule of Adjusted Operations – Gas Utility, ARF Form – Attachment SAO – September 2011 at 1.

²⁷ Western Lewis Rectorville Water District Gas Division, Plant and Depreciation Schedule, December 31, 2015.

²⁸ Response to Staff's Second Request, Item 9.a.

²⁹ Application, Schedule of Adjusted Operations – Gas Utility, ARF Form – Attachment SAO – September 2011 at 1 and References at 2.

depreciated rather than expensed.³⁰ Western Lewis proposed to depreciate the \$31,164 cost of the regulator station over 15 years and the \$53,670 cost of its line extension over 40 years, resulting in an increase to pro forma depreciation expense of \$3,420.³¹ Staff finds that the proposed depreciation lives are reasonable and is including the \$3,420 in its pro forma depreciation expense. Staff is also depreciating the cost of the new service connections of \$2,810 over 15 years, resulting in an increase of \$187.

Staff finds that an overall decrease to test-year depreciation expense of \$5,560 is reasonable.

Calculation of Overall Revenue Requirement
and Required Revenue Increase

Using the operating ratio method, Staff determined that Western Lewis requires an overall revenue requirement of \$118,789. As shown below, a \$20,360 base rate revenue increase, or 24.752 percent, is necessary to produce the overall revenue requirement.

Pro Forma Operating Expenses	\$	104,534
Divide by: Operating Ratio		88%
Overall Revenue Requirement		118,789
Less: Other Operating Revenue		(16,174)
Revenue Requirement from Base Rates		102,615
Less: Operating Revenue - Base Rates		(82,255)
Required Increase	\$	20,360
Percentage		24.752%

³⁰ Response to Staff's Second Request, Item 10.

³¹ *Id.* 9.b. \$31,164 (Regulator Station) ÷ 15 (Years) = \$2,078; \$53,670 (Line Extension) ÷ 40 (years) = \$1,342; \$2,078 + \$1,342 = \$3,420.

Rate Calculated by Staff

Western Lewis currently has a declining block rate design consisting of a minimum bill including up to 1 Mcf usage, and three additional blocks of 1 to 5 Mcf, 5 to 10 Mcf, and over 10 Mcf, plus a \$1.00 monthly customer charge. Western Lewis proposes to continue the use of its \$1.00 monthly customer charge as well as a minimum bill including 1 Mcf with a base rate of \$10 plus the Gas Cost Recovery (“GCR”) rate, and with all over 1 Mcf usage charged at a flat base rate of \$10 plus the GCR rate. Western Lewis’s proposed rates and rate design are as follows:

Customer Charge	\$1.00 per month		
	Base Rate	GCR Rate	Total Rate
1 Mcf or less (Minimum bill)	\$10.00	\$2.7567 ³²	\$12.7567
All Mcf over 1	\$10.00	\$2.7567	\$12.7567

In response to a Staff request for information, Western Lewis confirmed that it preferred the proposed rate design because it could be easily integrated into the existing billing system set up. It further indicated its willingness to consider changing to a rate design of a fixed monthly customer charge and one volumetric rate for all Mcf sold.³³ Staff recommends that Western Lewis change its rate design to one that is simpler and more common, with a \$10 fixed monthly customer charge and a flat rate for all Mcf sold. Using Staff’s revenue requirement of \$118,789, Staff determines the flat monthly rate to be \$.9530 per Mcf.³⁴

³² GCR rate in effect at the time Western Lewis filed its Application.

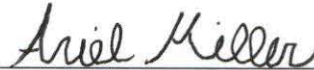
³³ Response to Staff’s Second Request, Item 5.

³⁴ (\$118,789 Revenue Requirement - \$16,174 Other Revenues - \$65,450 customer charge revenue) ÷ 39,017 Mcf = \$.9530 per Mcf (rounded).

Signatures:



Prepared by: Mark Frost
Financial Analyst, Water and Sewer
Revenue Requirements Branch
Division of Financial Analysis



Prepared by: Ariel Miller
Financial Analyst, Water and Sewer
Revenue Requirements Branch
Division of Financial Analysis



Prepared by: Leah Faulkner
Rate Analyst, Gas and Electric
Rate Design Branch
Division of Financial Analysis



Prepared by: Matthew Baer
Rate Analyst, Gas and Electric
Rate Design Branch
Division of Financial Analysis

ATTACHMENT A
STAFF REPORT, CASE NO. 2017-00074
RATE CALCULATED BY STAFF

RETAIL RATES:

Customer Charge \$10.00 per month

Monthly usage

Base Rate

All Mcf \$.9530

ATTACHMENT B
 STAFF REPORT, CASE NO. 2017-00074
 REALLOCATION OF SHARED EXPENSES

Account Title	Total Expenses	Direct/Allocated	Gas Division
Advertising	501	Allocated: 19.143% to the Gas Division	\$ 96
Automobile Expense	1,744	Allocated: 19.143% to the Gas Division	334
Bank Service Charges	600	Allocated: 19.143% to the Gas Division	115
Bond Certificate	3,385	Allocated: 19.143% to the Gas Division	648
Chemicals	2,470	Allocated: 19.143% to the Gas Division	473
Continued Education	2,313	Allocated: 19.143% to the Gas Division	443
Credit Refund	250	Allocated: 19.143% to the Gas Division	48
Depreciation	316,777	Direct: to the Gas Division	17,020
Deposit Interest	189	Allocated: 19.143% to the Gas Division	36
Dues and Subscriptions	218	Allocated: 19.143% to the Gas Division	42
Independent Contractor	30,847	Allocated: 19.143% to the Gas Division	5,905
Insurance	382	Allocated: 19.143% to the Gas Division	73
Insurance: Employee Health	36,747	Allocated: 19.143% to the Gas Division	7,034
Insurance: Liability	51,128	Allocated: 19.143% to the Gas Division	9,787
Maintenance: Fuel	13,971	Allocated: 19.143% to the Gas Division	2,674
Materials and Supplies	7,833	Direct: to the Gas Division	7,833
Materials and Supplies: Gas	(845)	Direct: to the Gas Division	(845)
Mileage	2,164	Allocated: 19.143% to the Gas Division	414
Miscellaneous	(3)	Allocated: 19.143% to the Gas Division	(1)
Office Expense	4,418	Allocated: 19.143% to the Gas Division	846
Office Supplies	2,900	Allocated: 19.143% to the Gas Division	555
Payroll Expenses	257,990	Allocated: 19.143% to the Gas Division	49,387
Payroll Expenses: Commissioner Fees	20,000	Allocated: 19.143% to the Gas Division	3,829
Payroll Taxes	23,775	Allocated: 19.143% to the Gas Division	4,551
Postage and Delivery	10,435	Allocated: 19.143% to the Gas Division	1,998
Postage and Delivery: Gas	482	Allocated: 19.143% to the Gas Division	92
Professional Fees: Accounting	10,300	Allocated: 19.143% to the Gas Division	1,972
Professional Fees: Consulting	2,926	Allocated: 19.143% to the Gas Division	560
Professional Fees: Gas Consultant	12,675	Direct: to the Gas Division	12,675
Program Expense	12,473	Allocated: 19.143% to the Gas Division	2,388
Rent	1,775	Allocated: 19.143% to the Gas Division	340
Repairs: Gas Meters	253	Direct: to the Gas Division	253
Retirement Expense	17,875	Allocated: 19.143% to the Gas Division	3,422
Telephone	4,779	Allocated: 19.143% to the Gas Division	915
Trash Pickup	227	Allocated: 19.143% to the Gas Division	43
Utilities: Electric (Water)	53,120	Allocated: 19.143% to the Gas Division	10,169
Utilities: Gas	174,148	Direct: to the Gas Division	174,148
Water Testing	7,213	Allocated: 19.143% to the Gas Division	1,381
Reallocated Operating Expenses			321,653
Less: Test-Year Operating Expenses Gas Division			407,361
Reallocation Adjustment			<u>\$ (85,708)</u>

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*Western Lewis-Rectorville Water and Gas District
8044 KY 3161
Maysville, KY 41056-9344

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF ESTILL COUNTY)
WATER DISTRICT NO. 1 FOR AN ALTERNATIVE) CASE NO.
RATE ADJUSTMENT) 2017-00176

NOTICE OF FILING OF COMMISSION STAFF REPORT

Notice is hereby given that, in accordance with the Commission's Order of June 12, 2017, the attached report containing the findings of Commission Staff regarding the Applicant's proposed adjustment to its water service rates has been filed in the record of the above-styled proceeding. Pursuant to the Commission's June 12, 2017 Order, Estill County Water District No. 1 is required to file written comments regarding the findings of Commission Staff no later than 14 days from the date of this report.



John S. Lyons
Acting Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATE AUG 09 2017
cc: Parties of Record

STAFF REPORT
ON
ESTILL COUNTY WATER DISTRICT NO. 1
CASE NO. 2017-00176

Estill County Water District No. 1 (“Estill District”) is a water district organized pursuant to KRS Chapter 74 that owns and operates a water distribution system through which it provides water service to approximately 3,777 customers located in Estill County, Kentucky.¹ On May 10, 2017, Estill District filed an application (“Application”) with the Commission pursuant to 807 KAR 5:076 requesting to increase its monthly water service rates evenly across the board by approximately 22.5 percent, except for its fire-protection rates. It did not propose to increase fire protection rates.

The requested water service rates would increase the monthly bill of a typical residential customer² from \$33.94 to \$41.57, an increase of \$7.63, or 22.5 percent, and were designed to generate \$345,009³ in additional annual revenues, a 22.5 percent increase to pro forma present rate revenues from water service rates in the amount of \$1,533,377.

To ensure the orderly review of the Application, the Commission established a procedural schedule by Order dated June 12, 2017. This Order required Commission

¹ *Annual Report of Estill County Water District to the Public Service Commission for the Calendar Year Ended December 31, 2015* (“Annual Report”) at 12 and 53.

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

³ In the “Revenue Requirements” calculation presented by Estill District in the Application, Estill District determined that a revenue increase in the amount of \$404,537 is warranted. It did not explain in the Application why it requested only \$345,009.

Staff ("Staff") to issue a report summarizing its findings after reviewing the Application and supporting documentation.

As required by 807 KAR 5:076, Section 3, Estill District based its requested rates on the historical test year 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, 2015. Staff performed a limited financial review of Estill District's test-year operations to gather the information necessary to determine the reasonableness of the rates requested in the Application and to prepare the report required by the Commission's June 12, 2017 Order.

The scope of the 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 Estill District's Overall Revenue Requirement. Eddie Beavers reviewed Estill District's reported revenues and rate design.

Summary of Findings

1. Overall Revenue Requirement and Required Revenue Increase. By applying a Debt Service Method that is generally accepted by the Commission, Staff calculated Estill District's Overall Revenue Requirement to be \$1,947,095 and determined that a revenue increase in the amount of \$360,445, or 23.91 percent, is necessary to generate the Overall Revenue Requirement.

2. Monthly Water Service Rates. In the Application, Estill District proposed to increase all of its monthly water service rates evenly across the board by approximately 22.5 percent, except for fire-protection rates. It did not propose to increase fire protection rates. The Commission has previously found that the allocation of a revenue increase evenly across the board to a utility's current rate design is appropriate when no evidence has been entered into the record demonstrating that this method is unreasonable. Finding no such evidence in this case, Staff followed the method proposed by Estill District and allocated the \$360,445 revenue increase Staff found warranted evenly across the board to Estill District's current monthly water service rates, excluding fire-protection rates.

Shown in the Attachment to this report are the monthly water service rates calculated by Staff. These rates will increase a typical residential customer's monthly bill from \$33.94 to \$42.05, an increase of \$8.11, or 23.9 percent.

3. Depreciable Lives. Beginning on page 13 of this report, Staff discusses Estill District's depreciation practices. Staff found that adjustments are warranted to the depreciable lives that Estill District used to calculate depreciation expense during the test year. If the Commission Orders any changes to Estill District's depreciable lives for ratemaking and accounting purposes, Estill District should ensure that it calculates and records depreciation expense in all future reporting periods in accordance with the Commission's Orders. Estill District should not adjust accumulated depreciation or retained earnings to account for the retroactive cumulative effect of this change in accounting estimate.

4. Unauthorized Debt. As discussed in more detail beginning on page 21 of this report, Estill District currently has three loans outstanding that are payable to Citizens Guaranty Bank for which Estill District did not obtain Commission approval as required by KRS 278.300. Estill District has the responsibility to ensure that it follows the Commission's statutes and regulations and that all statutory and regulatory approvals are obtained. Estill District should be aware that the Commission may initiate a separate proceeding to more thoroughly investigate the possible violations of Commission statutes and regulations. If a determination is made that there has been a willful violation of any provision of KRS Chapter 278 and 807 KAR Chapter 5, the members of the Board of Commissioners may be held accountable.⁴

⁴ KRS 278.990(1). Any officer, agent, or employee of a utility, as defined in KRS 278.010, and any other person who willfully violates any of the provisions of this chapter or any regulation promulgated pursuant to this chapter, or fails to obey any order of the commission from which all rights of appeal have been exhausted, or who procures, aids, or abets a violation by any utility, shall be subject to either a civil penalty to be assessed by the commission not to exceed two thousand five hundred dollars (\$2,500) for each offense or a criminal penalty of imprisonment for not more than six (6) months, or both.

Pro Forma Operating Statement

Estill District's Pro Forma Operating Statement for the test year ended December 31, 2015, as determined by Staff, appears below.

	<u>Test Year</u>	<u>Adjustment</u>	<u>(Ref.)</u>	<u>Pro Forma</u>
Operating Revenues				
Sales of Water	\$ 1,474,646	\$ 13,032	(A)	
		(24,300)	(B)	
		44,175	(C)	\$ 1,507,553
Miscellaneous Service Revenue	65,885	12,977	(D)	78,862
Total Operating Revenues	<u>1,540,531</u>	<u>45,884</u>		<u>1,586,415</u>
Operating Expenses				
Operation and Maintenance Expenses				
Salaries and Wages - Employees	296,946	(30,784)	(E)	266,162
Salaries and Wages - Commissioners	17,610			17,610
Employee Pensions and Benefits	165,889	(24,582)	(E)	
		(861)	(F)	
		(29,641)	(G)	110,805
Purchased Water	687,537	(1,656)	(H)	685,881
Purchased Power	70,650	(13,139)	(I)	57,511
Materials and Supplies	72,238			72,238
Contractual Services	37,570			37,570
Water Testing	4,418			4,418
Transportation Expenses	23,143			23,143
Insurance	31,986			31,986
Bad Debt Expense	256			256
Regulatory Commission Expense	5,267			5,267
Miscellaneous Expense	59,244	(6,751)	(J)	52,493
Total Operation and Maintenance Expenses	<u>1,472,754</u>	<u>(107,414)</u>		<u>1,365,340</u>
Depreciation	391,297	(137,907)	(K)	253,390
Amortization	272			272
Taxes Other Than Income	24,064	(2,355)	(E)	21,709
Total Operating Expenses	<u>1,888,387</u>	<u>(247,676)</u>		<u>1,640,711</u>
Net Operating Income	<u>(347,856)</u>	<u>293,561</u>		<u>(54,295)</u>
Interest Income	234			234
Income Available to Service Debt	<u>\$ (347,622)</u>	<u>\$ 293,561</u>		<u>\$ (54,061)</u>

(A) Billing Analysis Adjustment. Estill District provided a billing analysis that based the water usage and water-sales revenue for the entire 12-month test year with

its application. The billing analysis provided in the Application contained errors in the Usage Tables and Revenue Tables.

During Staff's Field Review, Estill District provided a revised billing analysis that calculated a normalized revenue of \$1,531,853. Staff has reviewed Estill District's billing analysis and finds that the water-sales revenues determined by the billing analysis provided during the field review is a more accurate representation of normalized test year revenue from water sales than the amount used by Estill District in the Application; therefore, staff has increased test year water sales revenue by \$13,032.

(B) Leak and Misread Meter Adjustments. Estill District tracks customer account billing adjustments for leak adjustments and misread meters manually and makes the financial adjustments in Estill District's billing program; however, the billing program does not allow for corresponding usage adjustments. The test-year billing analysis provided during Staff's Field Review does not reflect the adjustments made to customers' bills that were made after the bills were issued. Staff reduced test-year water sales revenues stated in the test-year billing analysis by \$24,300 to reflect credits to customer accounts for leak and misread meter adjustments.

(C) Purchased Water Adjustments. Estill District purchases water from the Irvine Municipal Utilities ("Irvine") and the Jackson County Water Association ("Jackson County"). Irvine increased its wholesale rate for water sold to Estill District during the test year. In Case No. 2015-00223, Estill District adjusted its monthly water rates during the test year pursuant to 807 KAR 5:068, Purchased Water Adjustment.⁵ Additionally, in 2016, Irvine increased its wholesale rate for water sold to Estill District and, In Case

⁵ *Purchased Water Adjustment Filing of Estill County Water District No. 1* (Ky. PSC July 30, 2015).

No. 2016-00256, Estill District adjusted its monthly water rates pursuant to 807 KAR 5:068, Purchased Water Adjustment.⁶ Staff has adjusted the revenues for the two Purchased Water Adjustment in the amount of \$44,175.

(D) Surcharge Revenue. In Case No. 1999-00404,⁷ the Commission authorized Estill District to collect a surcharge in the amount of \$4.81 per month from each customer served through the Cobb Hill water main extension project. Estill District reported surcharge revenue totaling \$12,977 as a part of test-year Sales of Water revenue. The surcharge revenue was inadvertently omitted from the billing analysis provided in the Application in which Estill District calculated pro forma present rate revenues to be \$1,533,377. To correct this omission, Staff increased test-year Miscellaneous Service Revenue by \$12,977.

(E) Retired Employee. During the test year, Estill District had eight full-time employees. One field employee retired from service subsequent to the test year. Although Estill District plans to fill this vacant position in the future, it had not done so at the time of Staff's review. Furthermore, Estill District had not adopted a formal plan to fill the position. Accordingly, Staff removed the retired employee's wages, benefits, and payroll taxes from Estill District's test-year operations as detailed below.

⁶ *Purchased Water Adjustment Filing of Estill County Water District No. 1* (Ky. PSC Aug. 5, 2016).

⁷ *Application of Estill County Water District No. 1 of Estill County, Kentucky, for a Certificate of Public Convenience and Necessity to Construct, Finance and Increase Rates Pursuant to KRS 278.023* (Ky. PSC Oct. 22, 1999).

Wages		\$ 30,784
Benefits		
Pension	5,750	
Health Insurance	18,154	
Dental Insurance	264	
Life Insurance	413	24,582
Payroll Taxes		<u>2,355</u>
Total		<u>\$ 57,721</u>

(F) Benefits Paid on Behalf of the Board of Commissioners. Estill District's Board of Commissioners consists of three members to whom Estill District provided single dental insurance coverage during the test year at a total cost of \$861.

In Case No. 2003-00224,⁸ the Commission found that the members of a Board of Commissioners should be treated as part-time employees, as they generally attend only one board meeting per month and are not required to work 40 hours per week. The Commission denied rate recovery of the costs associated with health insurance, life insurance, and dental insurance provided to members of the district's Board of Commissioners, since the district did not provide those benefits to other part-time employees.

Pursuant to its employment policies, Estill District provides insurance benefits only to full-time employees.⁹ As the Commission considers each member of Estill District's Board of Commissioners as a part-time employee, Staff removed the cost of each member's dental insurance from Estill District's test-year operations.

⁸ Case No. 2003-00224, *Application of Northern Kentucky Water District for (A) an Adjustment of Rates; (B) a Certificate of Public Convenience and Necessity for Improvements to Water Facilities if Necessary; and (C) Issuance of Bonds* (Ky. PSC June 14, 2004) at 11-12.

⁹ On October 10, 2007, Estill District adopted a Personnel Policies and Procedures Manual. Policy 535 of this manual restricts all insurance coverage to full-time employees.

(G) Wages and Benefits. As previously discussed, Estill District had eight full-time employees during the test year, but only seven at the time of Staff's review. The benefit package provided to each employee by Estill District includes: 1) wages; 2) insurance benefits paid 100 percent by the district that includes single or family health care coverage, single dental coverage, and life insurance; 3) a health insurance deductible reimbursement program;¹⁰ and 4) a pension benefit provided through participation in the County Employee Retirement System ("CERS").¹¹

During discussions with Estill District's Office Manager, Staff found that employee wage rates have remained unchanged since the year 2007, but that the life insurance benefit was added to the benefit package in approximately 2013 in lieu of employee wage increases.

In recent Orders, the Commission has made ratemaking adjustments to reduce the level of rate recovery of the cost of employee benefit packages paid by some utilities on behalf of their employees to levels that are more commensurate with those of other businesses. For example, in Case No. 2016-00325, the Commission found that North Mercer Water District ("North Mercer) paid, on behalf of its employees, 100 percent of the cost of family health insurance plans, family dental insurance plans, single dental insurance plans, and 100 percent of each employee's life insurance premium.¹² In that proceeding, the Commission excluded from rates 32 percent of the cost of the family

¹⁰ Estill District's Office Manager informed Staff that through this program, which is coordinated by Infinisource Benefit Services, Estill District reimburses each employee up to the first \$1,500 spent by the employee on the \$3,000 deductible included in Estill District's health insurance plan.

¹¹ Although Estill District is a CERS participant, it did not record pension costs pursuant to Governmental Account Standards Board Pronouncement No. 68 on its test-year financial statements.

¹² *Electronic Application of North Mercer Water District for Rate Adjustment made Pursuant to 807 KAR 5:076* (Ky. PSC May 19, 2017) at 2.

health insurance plans,¹³ and it excluded from rates 60 percent of the cost of dental insurance plans.¹⁴ It did not reduce the amount of life insurance premiums.

Likewise, in Case No. 2016-00367, the Commission removed, for ratemaking purposes, the cost of the Nolin Rural Electric Cooperative Corporation's ("Nolin") contributions to a 401(k) plan made on behalf of all employees who qualified and participated in the National Rural Electric Cooperative Association Retirement and Security Program ("NRECARSP"), which is a defined pension benefit plan.¹⁵ The Commission did not remove the 401(k) contributions made by Nolin on behalf of its employees who had been employed longer than 30 years and, therefore, no longer qualified for participation in the NRECARSP. Also in that case, the Commission, finding that it was unreasonable for Nolin to provide 100 percent of the cost of health insurance coverage to employees, ordered that rate recovery by Nolin for the cost of family health insurance coverage be reduced by 32 percent and the rate recovery by Nolin for single health insurance coverage be reduced by 21 percent.¹⁶

In this proceeding, following the methods applied by the Commission to other regulated utilities in recent cases, Staff reduced the cost of family health insurance by 32 percent for ratemaking purposes and reduced the cost of single health insurance and

¹³ *Id.* at 3. The Commission found that the 32 percent reduction was reasonable based on information provided at Bureau of Labor Statistics, Healthcare Benefits, July 22, 2016, Table 4, private industry workers. (<https://www.bls.gov/news.release/pdf/ebs2.pdf>).

¹⁴ *Id.* The Commission found that the 60 percent reduction rate was reasonable based on the Willis Benefits benchmarking Survey, 2015 (https://www.willis.com/documents/publications/Services/Employee_Benefits/20151230_2015WillisBenefitsBenchmarkingSurveyReport.pdf).

¹⁵ *Application of Nolin Rural Electric Cooperative Corporation for a General Rate Increase* (Ky. PSC June 21, 2017) at 10.

¹⁶ *Id.* at 11.

single dental insurance by 21 percent and 60 percent, respectively. Staff makes no finding as to the reasonableness of the amounts of these ratemaking adjustments. Staff's calculations are shown below. Note that Staff included the cost of Estill District's Health Insurance Deductible Reimbursement program in the adjustment and, for this purpose, Staff allocated the cost of the program between the family health plan and single health plan based on the cost of each plan reported for the test-year compared to the total cost of both plans.

	Health Insurance			Dental Insurance	Total Removed
	Family	Single	Total		
Total Premiums	\$66,702	\$19,006	\$85,708	\$ 1,855	
Percent of Health Insurance Total Separate \$10,800 of Deductible Reimbursements based on Percentage of Health Insurance	77.82%	22.18%	100.00%		
	8,405	2,395	10,800		
Total Cost Subject to Adjustment Times: Percent Removed by Commission in Prior Cases	75,107	21,401		1,855	
	32%	21%		60%	
Amount Removed this Proceeding	<u>\$24,034</u>	<u>\$ 4,494</u>		<u>\$ 1,113</u>	<u>\$29,641</u>

(H) Purchased Water. Effective July 19, 2016, Estill District's primary wholesale water provider, Irvine, increased its wholesale rate charged to Estill District from \$2.571 per thousand gallons to \$2.587 per thousand gallons. In the Application, Estill District determined that the new wholesale rate would increase its test-year purchased water costs by \$1,261.¹⁷ Further, Estill District calculated its test-year water loss to be 32.7 percent, or 17.7 percent higher than the 15 percent allowed for ratemaking purposes pursuant to 807 KAR 5:066, Section 6(3). It calculated the cost of

¹⁷ Application, References, at 1 and 2, Reference Item B.

the excess water loss to be \$121,284 and removed this amount from test-year operations.¹⁸ Estill District's two adjustments to test-year Purchased Water expense result in a net decrease of \$120,023 (\$121,284 - \$ 1,261).

During its review, Staff found that Irvine increased its wholesale rate from \$2.587 per thousand gallons to \$3.13 per thousand gallons effective for water service provided on and after July 19, 2017. Staff determined that this increase would result in recoverable purchased water cost of \$682,302 after removing the cost of Estill District's purchase of excess water loss. Accordingly, Staff decreased Estill District's test-year Purchased Water expense by \$1,656 as calculated below.

Test-Year Gallons Purchased (000)	264,869.799
Times: Current Wholesale Rate	<u>\$ 3.13</u>
Total Cost of Water	829,042
Times: Excess Water Loss %	<u>-17.7%</u>
Pro forma Cost of Excess Water Loss to be Removed	(146,741)
Plus: Total Cost of Water	<u>829,042</u>
Amount to Recover through Rates	682,302
Less: Test-Year Paid to Irvine	<u>(683,958)</u>
Adjustment	<u>\$ (1,656)</u>

(l) Purchased Power for Pumping. In the Application, Estill District proposed to reduce Purchased Power for Pumping expense by \$13,139 to remove the cost of electricity purchased to pump the excess water loss discussed above.¹⁹ Staff agrees

¹⁸ *Id.*

¹⁹ *Id.*, at 2, Reference Item C.

with this adjustment and reduced test-year Purchased Power for Pumping expense by \$13,139.

(J) Sales Tax. Estill District is required to bill and collect sales tax on water sold to commercial customers who are not exempt from such tax. The taxes collected are remitted to Kentucky Department of Revenue. Estill District correctly calculates and adds sales tax onto commercial accounts after the account's bill for water service has been calculated using Estill District's tariffed water service rates on file with the Commission.

During the test year, Estill District remitted sales tax to the Kentucky Department of Revenue in the amount of \$6,751. It incorrectly reported this amount as a test-year expense. If this amount remains in Estill District's operating expenses, the sales tax will be improperly recovered from all Estill District customers through the assessment of the water service rates authorized by the Commission in this proceeding. Thus, Staff removed sales tax from Estill District's test-year operating expenses.

(K) Depreciation. Estill District calculated test-year depreciation expense to be \$319,298 using the straight-line method of depreciation pursuant to which an asset is depreciated by dividing its original cost by its estimated useful life, or its depreciable life.²⁰ Due to an error in Estill District's year-end journal entries, test-year depreciation expense was incorrectly reported at \$391,297, instead of \$319,298, in Estill District's 2015 Annual Report.

²⁰ Estill District provided with the Application its "Asset Depreciation Report" labeled with the tab titled "Depreciation Schedules." In this document, total test-year depreciation expense is calculated to be \$319,298 on page 12.

Estill District proposed to decrease test-year depreciation by a net \$137,907 to account for: 1) correction of the error in the year-end journal entries; 2) a change to the depreciable lives assigned to many of its assets; and 3) the addition of depreciation that will accrue on a new main and appurtenances that were placed into service subsequent to the test year.²¹ Staff agrees with the adjustments proposed by Estill District and has decreased test-year depreciation expense by \$137,907. Estill District's proposed change to its depreciable lives and the depreciation of the new main are discussed below.

Change to Depreciable Lives: Generally, the Commission requires that a "large" utility perform a depreciation study to determine the appropriate depreciable lives to be assigned to each of its utility plant account groups. Detailed property records specific to historical plant additions, plant retirements, and salvage practices are required to complete a depreciation study. Generally, "small" water utilities, such as Estill District, do not maintain property records with enough detail to properly complete a formal study. Even when adequate records are maintained, "small" utilities do not have the financial resources to fund a formal study. Therefore, to evaluate the reasonableness of the depreciation practices of small water utilities, the Commission has historically relied upon the report published in 1979 by the National Association of Regulatory Utility Commissioners ("NARUC") titled Depreciation Practices for Small Water Utilities ("NARUC Study").²²

²¹ Application, References, Page 3, Reference Item D.

²² Case No. 2012-00278, *Application of Graves County Water District for an Adjustment in Rates Pursuant to the Alternative Rate Filing Procedure for Small Utilities* (Ky. PSC Sept. 5, 2012).

The NARUC Study provides a range of average service lives that are assigned to water plant account groups by water utilities across the county that design, install, and maintain their systems in accordance with good engineering practices. It concludes that the ranges are intended to be used as a guide by state regulatory commissions and other water utilities when developing the depreciable lives to be assigned to water plant account groups. For example, the NARUC Study found that transmission and distribution mains are depreciated between 50 and 75 years. Lives outside the NARUC ranges are acceptable when conditions warrant alternative lives.

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 either inside or outside of the NARUC ranges. The Commission has assigned lives at the short end and long end of the NARUC ranges when evidence is presented to support such lives. For example, in Case No. 2012-00309,²³ the Commission found that Southern Water and Sewer District's ("Southern") mains should be depreciated using a 50-year life, the shortest life within the NARUC range, because the majority of its main had decayed at a more rapid rate than originally anticipated. In Case No. 2012-00413, the Commission accepted Staff's finding that the depreciable life assigned to Pendleton County Water District's mains should be 75 years because they were thought to be free of noticeable decay and in excellent condition.²⁴

²³ *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).

²⁴ *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) at 8.

When no evidence exists to support a specific life that is inside or outside the NARUC ranges, the Commission has used the midpoint of the NARUC ranges to depreciate utility plant. In Case No. 2013-00154, the Commission found that Henderson County Water District (“Henderson District”) was depreciating the cost of some mains using a 40-year life and others using a 50-year life. Even though the 50-year life is within the NARUC range, the Commission found that the depreciable life assigned to all of Henderson District’s mains should be 62.5 years, the midpoint of the NARUC range, since no evidence was presented to support the 40-year or 50-year lives.²⁵

In this proceeding, Estill District, recognizing the Commission’s practice, proposed to change the depreciable lives assigned to its plant account groups to lives that fall within the NARUC ranges. A comparison of Estill District’s current lives, proposed lives, and the NARUC ranges are shown below. Note that all proposed lives are at the NARUC midpoint except for the Structures and Improvements account group and the Tools, Shop, and Garage Equipment account group.

²⁵ *Application of Henderson County Water District for an Alternative Rate Filing* (Ky. PSC Nov. 14, 2013) at Appendix B.

	Estill District		NARUC Range Years
	Depreciable Lives		
	Current Years	Proposed Years	
Structures and Improvement	40, 50	40	35-40
Pumping Equipment	20, 40	20	20
Reservoirs and Tanks	40	45	30-60
Transmission and Distribution Main	40	62.5	50-75
Meters	20, 40	40	35-45
Hydrants	20, 40	50	40-60
Office Furniture and Equipment	7	22.5	20-25
Tools, Shop, and Garage Equipment	7	15	15-20
Power Operated Equipment	10	12.5	10-15

Finding no evidence in this proceeding to indicate that Estill District's plant in service should be depreciated using lives that vary significantly from the NARUC midpoints, Staff finds that the changes to the depreciable lives proposed by Estill District are reasonable. Staff notes that, while the lives proposed for Structures and Improvements and Tools, Shop, and Garage Equipment are not at the NARUC midpoint, they are near enough to the midpoint that a change to the midpoint would not have a material effect on Estill District's depreciation accruals. Staff accepts the depreciable lives proposed by Estill District and finds that these changes will result in a reduction to test-year depreciation of \$107,510, as calculated by Estill District in the Application.²⁶

²⁶ Application, Depreciation Adjustments, Table A, Pages 1-5.

Main Placed into Service Subsequent to the Test Year: In Case No. 2013-00339, the Commission authorized Estill District to construct and finance a water improvement project with a total cost of \$2,360,000.²⁷ In its Order, the Commission found that:

Estill District proposes the installation of approximately 7.5 miles of 3-, 4-, 6-, and 8-inch polyvinyl chloride ("PVC") water line and appurtenances and two booster pumping stations. The proposed project will replace existing water distribution mains and install new distribution mains to extend water service to two customers in the western portion of Estill County, Kentucky. The total cost of the project, including legal, administrative, engineering design and inspection costs and contingencies, is \$2,360,000.

Estill District proposes to finance the total cost of the proposed construction from proceeds of the issuance and sale of \$1,699,000 of revenue bonds to Rural Development ("RD"), an agency of the U.S. Department of Agriculture, and an RD grant of \$661,000.²⁸

In February 2017, Estill District completed the construction of the project. Because construction costs exceeded original estimates and change orders were made to some of the specifications included in the original project, the total cost of the project grew to \$2,610,000, \$250,000 more than the amount estimated at the time the application was filed in Case No. 2013-00339. Additional RD grant proceeds were used to fund the extra cost. The amount of the original RD bonds, \$1,699,000, did not increase.

²⁷ Case No. 2013-00339, *Application of Estill County Water District No. 1 for a Certificate of Public Convenience and Necessity to Construct, Finance, and Increase Rates Pursuant to KRS 278.023* (Ky. PSC Oct. 3, 2013).

²⁸ *Id.* at 1.

In the Application, Estill District proposed to increase test-year depreciation by \$41,603 (\$2,610,000, cost / 62.5, depreciable life) to accrue depreciation on this project in pro forma operations assuming that the entire cost of the project will be depreciated as Transmission and Distribution Main. It applied this method because, at the time it prepared the Application, it had not completed the final accounting for the project. During the final accounting process, the cost of each major component of plant (i.e., main, pumping equipment, structures, meter installations, etc.) constructed as part of the project will be tallied from the numerous entries made to Estill District's Construction Work in Progress ("CWIP") account. The component totals will then be reclassified from CWIP to the proper plant account in Estill District's subsidiary plant ledger and depreciated using the lives approved by the Commission in this proceeding.

Estill District's depreciation of the entire cost of the project as though it were main results in a conservative estimate of the actual depreciation that will accrue on the project, since construction other than main will be assigned a shorter depreciable life than the 62.5-year life used in the Application. For example, Pumping Equipment will be assigned a 20-year life, increasing actual depreciation accruing on its cost when compared to the amount requested for rate recovery by Estill District.

At the time of Staff's review, Estill District had not finalized the accounting for the project's cost. Staff understands that the final accounting will occur as part of Estill District's 2017 Financial Statement Audit that will be performed by an independent Certified Public Accountant. Staff did not attempt to separate the project's total cost into the proper plant subsidiary accounts as part of its review in this proceeding. Staff accepts the depreciation calculated by Estill District for ratemaking purposes as a

conservative estimate of the actual depreciation that will accrue on this project in future reporting periods.

Overall Revenue Requirement and Required Revenue Increase

The Commission has historically applied a Debt Service Coverage (“DSC”) method to calculate the Overall Revenue Requirement of a water district or water association that has outstanding long-term debts. This method allows for recovery of: 1) cash related pro forma operating expenses; 2) depreciation expense, a non-cash operating expense, to provide working capital;²⁹ 3) the average annual principal and interest payments on all long-term debts, and 4) working capital that is in addition to depreciation expense. A comparison of Estill District’s and Staff’s calculation of Estill District’s Overall Revenue Requirement and Required Revenue Increase using the Commission’s DSC method is shown below.

²⁹ The Kentucky Supreme Court has held that the Commission must permit a water district to recover its depreciation expense through its rates for service to provide internal funds to be used for renewing and replacing assets. *See Public Serv. Comm’n of Kentucky v. Dewitt Water Dist.*, 720 S.W.2d 725, 728 (Ky. 1986). 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).

	<u>Application</u>	<u>Staff</u>	<u>Ref.</u>
Pro Forma Operating Expenses	\$ 1,613,882	\$ 1,640,711	
Add: Average Annual Debt Payments	342,806	255,320	(1)
Additional Working Capital	<u>47,345</u>	<u>51,064</u>	(2)
Overall Revenue Requirement	2,004,033	1,947,095	
Less: Other Operating Revenue	(65,885)	(78,862)	
Interest Income	<u>(234)</u>	<u>(234)</u>	
Revenue Required from Rates	1,937,914	1,867,998	
Less: Pro forma Present Rate Revenues	<u>(1,533,377)</u>	<u>(1,507,553)</u>	
Revenue Increase	<u>\$ 404,537</u>	<u>\$ 360,445</u>	
Percentage Increase	<u>26.38%</u>	<u>23.91%</u>	

(1) Average Annual Principal and Interest Payments. At the time Estill District filed the Application, it had six outstanding bond series payable to RD, one loan payable to the Kentucky Rural Water Finance Corporation ("KRWFC"), and three loans payable to Citizens Guaranty Bank ("Citizens"). Estill District requested to include the average annual principal and interest payments on all debts for the years 2017, 2018, and 2019 in the amount of \$390,151 in the calculation of its Overall Revenue Requirement. Staff agrees with including the payments to RD and KRWFC, but not to Citizens.

The Citizens loans originated on October 31, 2013, January 29, 2015, and January 24, 2017. Each loan has a four-year term. Estill District stated that it executed each loan to provide cash necessary to pay operating expenses and debt payments when cash flow provided through the collection of operating revenues was not sufficient.

Estill District did not obtain the Commission's authorization to enter into the Citizens loans as required by KRS 278.300.³⁰

In prior cases, the Commission has disallowed rate recovery of loans when their proceeds were used to pay operating expenses, finding that such action would constitute retroactive ratemaking.³¹ Following the Commission's prior rulings, Staff excluded the Citizens principal and interest payments from the calculation of Estill District's average debt payments. As shown below, Staff calculated the three-year average debt payment that Estill District should recover through rates to be \$255,320.

	Principal and Interest Payments			
	2017	2018	2019	Total
RD Bond Series				
1991 A	\$ 30,750	\$ 31,050	\$ 30,800	\$ 92,600
1991 B	5,800	6,175	6,025	18,000
1996	27,835	27,817	27,777	83,429
2000	53,947	54,070	54,147	162,164
2006	49,438	49,840	49,701	148,979
2014	68,186	68,509	68,308	205,003
KRWFC	19,019	18,275	18,491	55,785
Three-Year Total				765,960
Divide by: Three Years				3
Annual Average Payment				<u>\$ 255,320</u>

³⁰ KRS 278.300(1) states, "No utility shall issue any securities or evidences of indebtedness, or assume any obligation or liability in respect to securities or evidences of indebtedness of any other person until it has been authorized so to do by order of the commission." While KRS 278.300(8) exempts debts that have a term of less than two years when certain conditions are met, the loans payable to Citizens have four-year terms, are nonexempt, and required the Commission's approval.

³¹ See Case No. 8690, *Application of Glengarry Utilities, Inc., Glengarry Sewage Treatment Plant, for an Adjustment of Rates Pursuant to the Alternative Procedure for Small Utilities* (Ky. PSC July 8, 1983); and Case No. 9303, *Application of Fordhaven, Inc., for an Adjustment of Rates Pursuant to the Alternative Procedure for Small Utilities* (Ky. PSC Aug. 8, 1985).

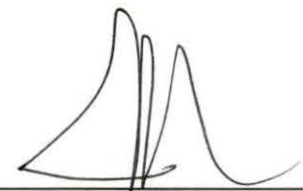
(2) Additional Working Capital. The DSC method, as historically applied by the Commission, includes an allowance for additional working capital that is equal to the minimum net revenues required by a district's lenders that are above its average annual debt payments. In this case, Estill District calculated its allowance for additional working capital to be \$47,345. Staff calculated the allowance for additional working capital to be \$51,064, following the Commission's traditional method as shown below.³²

³² The 2014 RD Bond Resolution requires that Estill District 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 bond. 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 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 the calculation of Estill District's Overall Revenue Requirement. Note that the Operation and Maintenance Expense stated below includes the purchased water expense, purchased power expense, and employee health care and dental costs that were removed by Staff for ratemaking purposes in this report.

	<u>With Additional Working Capital</u>	<u>Without Additional Working Capital</u>
Overall Revenue Requirement	\$ 1,947,095	\$ 1,896,031
Less: Operation and Maintenance Expense	(1,554,860)	(1,554,860)
Taxes Other Than Income	<u>(21,709)</u>	<u>(21,709)</u>
Net Revenues	370,525	319,461
Divide by: Average Annual Debt Payments	<u>255,320</u>	<u>255,320</u>
DSC Ratio	<u>145.12%</u>	<u>125.12%</u>

Average Annual Principal and Interest Payments	\$ 255,320
Times: DSC Ratio	<u>120%</u>
Total Net Revenues Required	306,384
Less: Average Annual Principal and Interest Payments	<u>(255,320)</u>
Additional Working Capital	<u>\$ 51,064</u>

Signatures



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



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

ATTACHMENT
STAFF REPORT, CASE NO. 2017-00176
ESTILL COUNTY WATER DISTRICT

Staff Calculated Monthly Water Rates

5/8 x 3/4-Inch Meter

First	2,000	gallons	\$21.31	Minimum bill
Next	3,000	gallons	10.37	per 1,000 gallons
Next	5,000	gallons	10.12	per 1,000 gallons
Over	10,000	gallons	7.78	per 1,000 gallons

1-Inch Meter

First	5,000	gallons	\$52.43	Minimum bill
Next	5,000	gallons	10.12	per 1,000 gallons
Over	10,000	gallons	7.78	per 1,000 gallons

2-Inch Meter

First	16,000	gallons	\$149.73	Minimum bill
Over	16,000	gallons	7.78	per 1,000 gallons

Bulk Loading Stations			6.75	per 1,000 gallons
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*Estill County Water District #1
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For release 10:00 a.m. (EDT) Friday, July 22, 2016

USDL-16-1493

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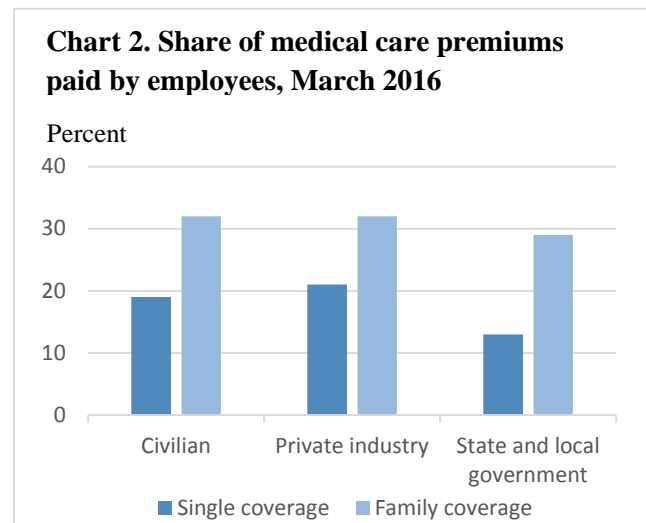
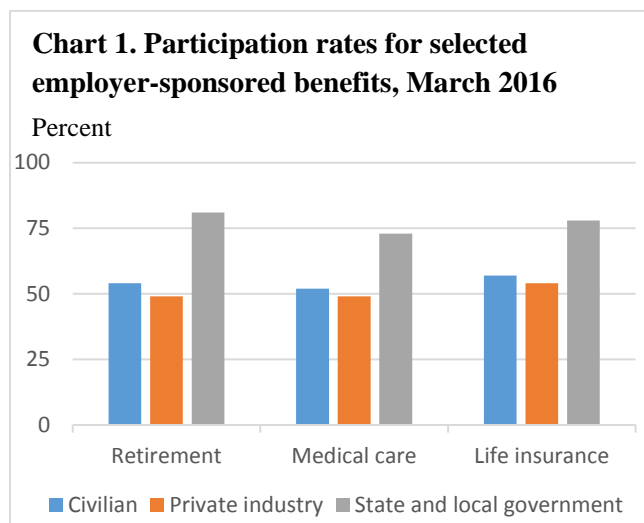
EMPLOYEE BENEFITS IN THE UNITED STATES – MARCH 2016

The participation rate for employer-sponsored medical care benefits for civilian workers was 52 percent in March 2016, the U.S. Bureau of Labor Statistics reported today. The participation rate was 49 percent for private industry workers and 73 percent for state and local government workers. (See tables A and 2, and chart 1.)

The participation rate for employer-sponsored retirement benefits, which include defined benefit and defined contribution plans, was 54 percent for civilian workers. The participation rate was 49 percent for private industry workers and 81 percent for state and local government workers. Differences in retirement plan participation are influenced by the type of plan offered. (See tables A and 1, chart 1, and the technical note.)

Fifty-seven percent of civilian workers participated in employer-sponsored life insurance benefits. The participation rate for private industry workers was 54 percent and 78 percent for state and local government workers. (See tables A and 5, and chart 1.)

The share of single coverage medical care premiums paid by employees averaged 19 percent for civilian workers, 21 percent for private industry workers, and 13 percent for state and local government workers. (See table 3 and chart 2.)



These data are from the National Compensation Survey (NCS), which provides comprehensive measures of compensation cost levels and trends and also provides benefits incidence data on the percentage of workers with access to and participating in employer-provided benefit plans. The survey covers a broad range of benefits including holidays and vacations, sick leave, life insurance, and detailed provisions for health care and retirement plans. Archived NCS news releases are available at www.bls.gov/ncs/ncspubs.htm.

Table A. Selected employer-sponsored benefits: Access, participation and take-up rates¹, March 2016

(All workers = 100 percent)

Benefit	Civilian ¹			Private industry			State and local government		
	Access	Participation	Take-up rates	Access	Participation	Take-up rates	Access	Participation	Take-up rates
Retirement ¹	69	54	78	66	49	75	90	81	90
Medical care	70	52	75	67	49	73	88	73	83
Life insurance	59	57	98	55	54	98	80	78	98

¹ For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20152016.htm and the technical note.

Highlights of employer-sponsored benefits for civilian workers by worker characteristics:

- Access to retirement benefits for major occupational groups ranged from 47 percent for service workers to 84 percent for management, professional, and related workers. (See table 1.)
- Access to medical care benefits was 88 percent of full-time workers and 19 percent for part-time workers. (See table 2.)
- Access to life insurance benefits was 85 percent for union workers and 54 percent for nonunion workers. (See table 5.)
- For workers with an average wage in the lowest 25 percent category, 41 percent had access to paid sick leave, 51 percent had access to paid vacations, and 53 percent had access to paid holidays. For workers with an average wage in the highest 25 percent category, 87 percent had access to paid sick leave, 79 percent had access to paid vacations, and 83 percent had access to paid holidays. (See table 6.)

Highlights of employer-sponsored benefits for civilian workers by establishment characteristics:

- Access to retirement benefits by establishment size ranged from 53 percent for workers in establishments with 1 to 99 workers to 86 percent for workers in establishments with 100 workers or more. (See table 1.)
- Eighty-four percent of civilian workers in goods-producing industries had access to medical care benefits. For workers in service-providing industries, the access rate to medical care benefits was 68 percent. (See table 2.)
- The access rate for life insurance for workers by Census region was 51 percent in the West, 59 percent in the Northeast, 61 percent in the South, and 62 percent in the Midwest. (See table 5.)
- For workers in establishments with 1 to 99 workers, the access rate was 56 percent for paid sick leave, 68 percent for paid vacations, and 69 percent for paid holidays. For workers in establishments with 100 or more workers, the access rate was 79 percent for paid sick leave, 79 percent for paid vacations, and 82 percent for paid holidays. (See table 6.)

More information can be obtained by calling (202) 691-6199, sending e-mail to ncsinfo@bls.gov, or by visiting www.bls.gov/ebs.

Additional Data Available Fall 2016

More information will be published September 23, 2016 on the incidence and provisions of health care benefits, retirement benefits, life insurance, short-term and long-term disability benefits, paid holidays and vacations, and other selected benefits. For the latest benefit publications see www.bls.gov/ebs.

TECHNICAL NOTE

Data in this release are from the National Compensation Survey (NCS), conducted by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). This release contains March 2016 data on employer-provided benefits offered to civilian, private industry, and state and local government workers in the United States. Excluded are federal government workers, the military, agricultural workers, private household workers, and the self-employed. This news release provides data on the incidence of (access to and participation in) selected benefits and the share of premiums paid by employers and employees for medical care.

Comparing private and public sector data: Incidence of employee benefits in state and local government should not be directly compared to private industry. Differences between these sectors stem from factors such as variation in work activities and occupational structures. Manufacturing and sales, for example, make up a large part of private industry work activities but are rare in state and local government. Administrative support and professional occupations (including teachers) account for two-thirds of the state and local government workforce, compared with one-half of private industry.

Leave benefits for teachers: Primary, secondary, and special education teachers typically have a work schedule of 37 or 38 weeks per year. Because of this work schedule, they are generally not offered vacations or holidays. In many cases, the time off during winter and spring breaks during the school year are not considered vacation days for the purposes of this survey.

Medical care premiums: The estimates for medical care premiums are not based on actual decisions regarding medical coverage made by employees; instead they are based on the assumption that all employees in the occupation can opt for single or family coverage. In instances where annual premiums are collected, the values are converted to a monthly premium amount using the annual work schedule. Annual work schedules may be less than twelve months.

Sample size: See appendix table 1 at the end of this release.

Survey scope: See appendix table 2 at the end of this release.

Obtaining information: For research articles on employee benefits, see the Monthly Labor Review benefits section at www.bls.gov/opub/mlr/subject/b.htm and Beyond the Numbers: Pay and Benefits at www.bls.gov/opub/btn/archive/home.htm. For further technical information, see Chapter 8, "National Compensation Measures," BLS Handbook of Methods at www.bls.gov/opub/hom/pdf/homch8.pdf.

Definitions of major terms:

Access: Employees are considered to have access to a benefit plan if it is available for their use. For example, if an employee is permitted to participate in a medical care plan offered by the employer, but the employee declines to do so, he or she is placed in a category with those having access to medical care.

Participation: Employees in contributory plans are considered participants in an insurance or retirement plan if they have paid required contributions and fulfilled any applicable service requirements. Employees in noncontributory plans are counted as participating regardless of whether they have fulfilled the service requirements. Note that the term "incidence" can refer to either rates of access or rates of participation in a benefit plan.

Take-up rate: The percentage of workers with access to a plan who participate in the plan.

Retirement benefits include defined benefit pension plans and defined contribution retirement plans. Workers are counted as having access or participating in retirement benefits if they have access or participate in at least one type of plan, defined benefit or defined contribution; some workers may have access to or participate in both. Differences in retirement plan participation are influenced by type of plan offered. Participation in defined benefit plans is often mandatory, subject to any applicable eligibility requirements, while participation in defined contribution plans is often voluntary.

Medical care plans provide services or payments for services rendered in the hospital or by a qualified medical care provider.

Calculation details:

Average hourly earnings from sampled occupations within an establishment were used to produce estimates for worker groups within six earnings categories: the lowest 10 percent, the lowest 25 percent, the second 25 percent, the third 25 percent, the highest 25 percent, and the highest 10 percent. The categories are based on unpublished March 2016 wages and salaries series from the Employer Costs for Employee Compensation at www.bls.gov/news.release/archives/ecec_06092016.pdf.

The percentiles were computed using earnings and scheduled hours of work reported for individual workers in sampled establishment jobs. Establishments in the survey are asked to report only individual worker earnings for each sampled job. For the calculation of the hourly percentile values, the individual worker hourly earnings are weighted and arrayed from lowest to highest. The values corresponding to the percentiles are:

Characteristics	Hourly wage percentiles				
	10	25	50 (median)	75	90
Civilian	\$9.54	\$12.40	\$18.52	\$29.80	\$45.36
Private industry	9.37	12.00	17.73	28.60	44.33
State and local government	12.70	16.71	24.20	35.99	49.79

The lowest 10-percent and 25-percent wage categories include those occupations with an average hourly wage less than the 10th percentile value and 25th percentile value, respectively. The second 25-percent category includes those occupations that earn at or above the 25th percentile value but less than the 50th percentile value. The third 25-percent category includes those occupations that earn at or above the 50th percentile value but less than the 75th percentile value. Finally, the highest 25- and 10 percent wage categories include those occupations with an average wage value greater than or equal to the 75th and 90th percentile value, respectively.

Individual workers can be in earnings category that is different from the occupation into which they are classified because average hourly earnings for the occupation are used to produce the benefit estimates.

Table 1. Retirement benefits:¹ Access, participation, and take-up rates,² March 2016

(All workers = 100 percent)

Characteristics	Civilian ³			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
All workers	69	54	78	66	49	75	90	81	90
Worker characteristics									
Management, professional, and related	84	72	86	81	69	85	92	81	89
Management, business, and financial	86	76	88	85	75	88	–	–	–
Professional and related	83	70	85	79	65	83	92	81	89
Teachers	84	73	87	–	–	–	91	80	88
Primary, secondary, and special education school teachers	94	83	88	–	–	–	99	88	89
Registered nurses	88	72	81	–	–	–	–	–	–
Service	47	31	65	41	23	56	86	78	90
Protective service	78	62	79	60	31	52	92	85	92
Sales and office	71	52	74	69	50	72	91	82	90
Sales and related	66	41	61	66	41	61	–	–	–
Office and administrative support	74	59	80	72	56	78	92	83	90
Natural resources, construction, and maintenance Construction, extraction, farming, fishing, and forestry	65	53	81	62	49	79	97	91	94
Installation, maintenance, and repair	62	50	82	57	45	79	–	–	–
Production, transportation, and material moving ... Production	69	55	80	67	52	78	–	–	–
Transportation and material moving	71	54	76	70	53	75	85	78	91
Production	74	56	76	74	56	75	–	–	–
Transportation and material moving	68	52	76	67	50	74	–	–	–
Full time	80	65	81	77	60	78	99	89	90
Part time	37	22	59	37	21	56	40	34	85
Union	94	84	90	91	81	90	97	87	89
Nonunion	65	49	75	64	46	73	84	76	90
Average wage within the following categories: ⁴									
Lowest 25 percent	44	24	56	42	22	52	76	68	89
Lowest 10 percent	33	15	45	33	14	42	63	55	87
Second 25 percent	71	52	74	65	45	69	93	84	90
Third 25 percent	81	68	84	78	64	82	95	86	91
Highest 25 percent	89	79	89	87	76	88	98	87	89
Highest 10 percent	90	80	89	88	79	90	97	84	86

See footnotes at end of table.

Table 1. Retirement benefits:¹ Access, participation, and take-up rates,² March 2016—continued

(All workers = 100 percent)

Characteristics	Civilian ³			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
Establishment characteristics									
Goods-producing industries	75	60	81	74	60	80	—	—	—
Service-providing industries	69	53	77	64	47	74	90	81	90
Education and health services	79	65	83	72	56	79	92	81	88
Educational services	87	77	88	72	64	88	92	81	88
Elementary and secondary schools	89	80	89	—	—	—	92	82	89
Junior colleges, colleges, and universities	88	77	87	88	77	88	89	77	86
Health care and social assistance	73	57	78	71	55	77	91	79	87
Hospitals	91	78	85	—	—	—	94	79	84
Public administration	91	83	92	—	—	—	91	83	92
1 to 99 workers	53	38	71	52	36	70	80	72	91
1 to 49 workers	48	34	71	47	33	70	73	66	91
50 to 99 workers	67	48	72	65	46	70	90	81	90
100 workers or more	86	70	82	83	66	79	92	82	90
100 to 499 workers	81	62	77	80	59	74	88	81	92
500 workers or more	91	78	86	90	76	85	93	83	89
Geographic areas									
Northeast	71	58	82	68	55	80	91	82	90
New England	72	59	81	70	55	78	85	81	95
Middle Atlantic	71	58	82	68	55	81	93	82	88
South	70	52	74	66	47	71	92	82	89
South Atlantic	70	54	76	67	49	73	90	81	89
East South Central	73	51	70	68	44	65	95	83	87
West South Central	68	50	74	64	45	70	92	83	91
Midwest	73	57	78	70	53	76	87	77	89
East North Central	72	56	78	70	53	76	85	78	91
West North Central	75	58	77	72	54	75	91	77	85
West	63	50	80	59	45	77	91	83	91
Mountain	66	50	76	62	46	74	88	77	88
Pacific	62	51	81	57	45	78	92	86	93

¹ Includes defined benefit pension plans and defined contribution retirement plans. Workers are considered as having access or as participating if they have access to or are participating in at least one of these plan types.

² The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan, rounded for presentation. See Technical Note for more details.

³ Includes workers in the private nonfarm economy except those in private households, and workers in the public sector, except the federal government. See Technical Note for further explanation.

⁴ Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2016.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20152016.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 2. Medical care benefits: Access, participation, and take-up rates,¹ March 2016

(All workers = 100 percent)

Characteristics	Civilian ²			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
All workers	70	52	75	67	49	73	88	73	83
Worker characteristics									
Management, professional, and related	87	68	78	86	66	77	89	73	82
Management, business, and financial	94	73	78	94	73	77	—	—	—
Professional and related	84	66	78	82	62	76	89	72	82
Teachers	81	66	81	—	—	—	88	72	82
Primary, secondary, and special education school teachers	94	76	81	—	—	—	98	80	82
Registered nurses	88	63	72	—	—	—	—	—	—
Service	45	29	65	39	23	58	82	69	84
Protective service	68	52	77	40	20	51	90	76	85
Sales and office	68	49	73	66	47	71	89	75	83
Sales and related	55	37	68	55	37	67	—	—	—
Office and administrative support	76	57	75	74	54	73	90	75	83
Natural resources, construction, and maintenance	74	60	81	72	58	80	95	81	85
Construction, extraction, farming, fishing, and forestry	68	56	82	65	53	82	—	—	—
Installation, maintenance, and repair	80	64	79	79	62	79	—	—	—
Production, transportation, and material moving ...	74	55	75	74	55	74	81	68	85
Production	80	61	75	80	61	75	—	—	—
Transportation and material moving	69	51	74	68	49	73	—	—	—
Full time	88	66	76	86	63	74	99	82	83
Part time	19	12	61	19	11	59	24	17	71
Union	94	79	84	93	78	85	95	79	84
Nonunion	66	48	72	65	46	71	81	67	82
Average wage within the following categories: ³									
Lowest 25 percent	36	22	61	33	19	57	70	57	81
Lowest 10 percent	22	11	49	22	11	48	56	45	80
Second 25 percent	75	54	73	71	50	70	91	77	84
Third 25 percent	87	68	79	85	65	77	94	78	83
Highest 25 percent	93	74	79	92	72	78	97	80	82
Highest 10 percent	94	74	79	93	72	78	96	80	83

See footnotes at end of table.

Table 2. Medical care benefits: Access, participation, and take-up rates,¹ March 2016—continued

(All workers = 100 percent)

Characteristics	Civilian ²			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
Establishment characteristics									
Goods-producing industries	84	66	79	84	66	79	—	—	—
Service-providing industries	68	50	74	64	46	71	88	72	83
Education and health services	79	59	75	74	52	70	88	72	81
Educational services	85	69	80	76	57	75	88	72	82
Elementary and secondary schools	87	70	80	—	—	—	88	72	81
Junior colleges, colleges, and universities	88	71	80	90	68	76	87	72	83
Health care and social assistance	75	53	70	73	51	70	90	70	77
Hospitals	91	69	76	—	—	—	94	73	78
Public administration	88	76	86	—	—	—	88	76	86
1 to 99 workers	56	40	71	55	39	70	76	63	83
1 to 49 workers	52	37	70	52	36	69	69	57	84
50 to 99 workers	67	49	73	66	47	72	88	72	82
100 workers or more	84	65	77	82	62	75	89	74	83
100 to 499 workers	79	59	75	79	58	74	85	70	82
500 workers or more	89	71	79	88	68	77	91	75	83
Geographic areas									
Northeast	71	53	75	68	50	73	88	74	84
New England	69	50	73	66	46	71	87	70	81
Middle Atlantic	71	54	76	69	51	74	88	75	85
South	71	53	74	68	48	71	91	76	84
South Atlantic	71	52	73	67	48	71	90	74	83
East South Central	75	56	74	71	49	69	95	85	90
West South Central	70	52	74	67	49	73	90	74	82
Midwest	71	51	72	69	49	71	82	63	78
East North Central	70	51	72	69	49	71	79	62	78
West North Central	71	52	73	69	49	72	86	66	77
West	69	53	78	65	50	76	89	75	84
Mountain	68	51	75	65	48	74	87	73	85
Pacific	69	55	79	66	51	78	90	75	84

¹ The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan, rounded for presentation. See Technical Note for more details.

² Includes workers in the private nonfarm economy except those in private households, and workers in the public sector, except the federal government. See Technical Note for further explanation.

³ Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2016.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20152016.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 3. Medical plans: Share of premiums paid by employer and employee for single coverage, March 2016

(In percent)

Characteristics	Civilian ¹		Private industry		State and local government	
	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium
All workers participating in single coverage medical plans	81	19	79	21	87	13
Worker characteristics						
Management, professional, and related	82	18	80	20	87	13
Management, business, and financial	81	19	80	20	—	—
Professional and related	83	17	80	20	87	13
Teachers	86	14	—	—	87	13
Primary, secondary, and special education school teachers	85	15	—	—	86	14
Registered nurses	81	19	—	—	—	—
Service	82	18	80	20	88	12
Protective service	87	13	83	17	88	12
Sales and office	79	21	77	23	88	12
Sales and related	75	25	75	25	—	—
Office and administrative support	80	20	78	22	88	12
Natural resources, construction, and maintenance	81	19	80	20	86	14
Construction, extraction, farming, fishing, and forestry	82	18	81	19	—	—
Installation, maintenance, and repair	80	20	79	21	—	—
Production, transportation, and material moving ...	80	20	80	20	84	16
Production	79	21	79	21	—	—
Transportation and material moving	81	19	81	19	—	—
Full time	81	19	79	21	87	13
Part time	78	22	77	23	85	15
Union	87	13	87	13	87	13
Nonunion	79	21	78	22	87	13
Average wage within the following categories: ²						
Lowest 25 percent	77	23	76	24	87	13
Lowest 10 percent	75	25	75	25	88	12
Second 25 percent	80	20	78	22	88	12
Third 25 percent	82	18	80	20	88	12
Highest 25 percent	82	18	81	19	86	14
Highest 10 percent	82	18	81	19	87	13

See footnotes at end of table.

Table 3. Medical plans: Share of premiums paid by employer and employee for single coverage, March 2016—continued

(In percent)

Characteristics	Civilian ¹		Private industry		State and local government	
	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium
Establishment characteristics						
Goods-producing industries	80	20	80	20	—	—
Service-providing industries	81	19	79	21	87	13
Education and health services	82	18	79	21	87	13
Educational services	85	15	80	20	86	14
Elementary and secondary schools	86	14	—	—	86	14
Junior colleges, colleges, and universities	85	15	80	20	88	12
Health care and social assistance	80	20	79	21	88	12
Hospitals	81	19	—	—	88	12
Public administration	87	13	—	—	87	13
1 to 99 workers	80	20	79	21	91	9
1 to 49 workers	81	19	80	20	91	9
50 to 99 workers	78	22	77	23	91	9
100 workers or more	81	19	79	21	87	13
100 to 499 workers	79	21	78	22	86	14
500 workers or more	83	17	80	20	87	13
Geographic areas						
Northeast	82	18	81	19	85	15
New England	79	21	79	21	82	18
Middle Atlantic	83	17	82	18	87	13
South	80	20	78	22	87	13
South Atlantic	79	21	77	23	88	12
East South Central	80	20	78	22	87	13
West South Central	79	21	78	22	85	15
Midwest	80	20	78	22	87	13
East North Central	79	21	78	22	86	14
West North Central	81	19	79	21	89	11
West	83	17	82	18	88	12
Mountain	81	19	80	20	89	11
Pacific	83	17	82	18	88	12

¹ Includes workers in the private nonfarm economy except those in private households, and workers in the public sector, except the federal government. See Technical Note for further explanation.

² Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2016.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20152016.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 4. Medical plans: Share of premiums paid by employer and employee for family coverage, March 2016

(In percent)

Characteristics	Civilian ¹		Private industry		State and local government	
	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium
All workers participating in family coverage medical plans	68	32	68	32	71	29
Worker characteristics						
Management, professional, and related	69	31	69	31	69	31
Management, business, and financial	71	29	70	30	—	—
Professional and related	68	32	68	32	68	32
Teachers	66	34	—	—	67	33
Primary, secondary, and special education school teachers	65	35	—	—	66	34
Registered nurses	69	31	—	—	—	—
Service	67	33	64	36	74	26
Protective service	77	23	72	28	78	22
Sales and office	66	34	65	35	73	27
Sales and related	63	37	63	37	—	—
Office and administrative support	67	33	66	34	73	27
Natural resources, construction, and maintenance	69	31	69	31	74	26
Construction, extraction, farming, fishing, and forestry	69	31	68	32	—	—
Installation, maintenance, and repair	70	30	69	31	—	—
Production, transportation, and material moving ...	71	29	71	29	67	33
Production	71	29	71	29	—	—
Transportation and material moving	70	30	71	29	—	—
Full time	69	31	68	32	71	29
Part time	64	36	63	37	70	30
Union	80	20	83	17	78	22
Nonunion	65	35	65	35	64	36
Average wage within the following categories: ²						
Lowest 25 percent	61	39	62	38	65	35
Lowest 10 percent	61	39	62	38	58	42
Second 25 percent	66	34	64	36	73	27
Third 25 percent	70	30	68	32	71	29
Highest 25 percent	72	28	72	28	73	27
Highest 10 percent	73	27	73	27	77	23

See footnotes at end of table.

Table 4. Medical plans: Share of premiums paid by employer and employee for family coverage, March 2016—continued

(In percent)

Characteristics	Civilian ¹		Private industry		State and local government	
	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium
Establishment characteristics						
Goods-producing industries	72	28	72	28	–	–
Service-providing industries	68	32	67	33	71	29
Education and health services	65	35	64	36	67	33
Educational services	66	34	66	34	66	34
Elementary and secondary schools	64	36	–	–	64	36
Junior colleges, colleges, and universities	70	30	71	29	70	30
Health care and social assistance	65	35	64	36	74	26
Hospitals	72	28	–	–	73	27
Public administration	77	23	–	–	77	23
1 to 99 workers	64	36	64	36	73	27
1 to 49 workers	65	35	64	36	74	26
50 to 99 workers	64	36	63	37	71	29
100 workers or more	71	29	71	29	70	30
100 to 499 workers	68	32	67	33	70	30
500 workers or more	73	27	75	25	71	29
Geographic areas						
Northeast	75	25	73	27	82	18
New England	73	27	71	29	79	21
Middle Atlantic	76	24	74	26	84	16
South	63	37	63	37	60	40
South Atlantic	66	34	65	35	68	32
East South Central	61	39	65	35	49	51
West South Central	59	41	60	40	55	45
Midwest	70	30	69	31	76	24
East North Central	71	29	70	30	78	22
West North Central	68	32	67	33	74	26
West	70	30	69	31	75	25
Mountain	68	32	68	32	67	33
Pacific	71	29	69	31	78	22

¹ Includes workers in the private nonfarm economy except those in private households, and workers in the public sector, except the federal government. See Technical Note for further explanation.

² Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2016.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20152016.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 5. Life insurance benefits: Access, participation, and take-up rates,¹ March 2016

(All workers = 100 percent)

Characteristics	Civilian ²			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
All workers	59	57	98	55	54	98	80	78	98
Worker characteristics									
Management, professional, and related	77	76	99	75	75	99	80	78	98
Management, business, and financial	83	83	99	83	83	99	—	—	—
Professional and related	74	73	98	71	71	99	79	77	98
Teachers	73	71	98	—	—	—	79	77	98
Primary, secondary, and special education school teachers	82	81	98	—	—	—	86	84	98
Registered nurses	77	77	99	—	—	—	—	—	—
Service	34	32	95	27	25	94	77	76	98
Protective service	71	69	97	50	47	95	86	85	98
Sales and office	56	55	98	54	52	98	81	80	98
Sales and related	42	40	96	41	40	96	—	—	—
Office and administrative support	64	63	98	62	61	98	82	80	98
Natural resources, construction, and maintenance Construction, extraction, farming, fishing, and forestry	58	56	97	54	53	97	93	91	99
Installation, maintenance, and repair	51	49	97	46	44	97	—	—	—
Production, transportation, and material moving ... Production	65	63	97	62	61	97	—	—	—
Transportation and material moving	63	60	97	62	60	97	77	74	97
Production	68	66	98	68	66	98	—	—	—
Transportation and material moving	58	55	96	56	54	95	—	—	—
Full time	74	73	98	71	70	98	90	88	98
Part time	12	11	89	12	10	88	22	21	96
Union	85	83	97	84	80	96	86	85	98
Nonunion	54	53	98	52	51	98	74	72	97
Average wage within the following categories: ³									
Lowest 25 percent	24	22	92	21	19	91	64	62	98
Lowest 10 percent	14	12	86	13	11	83	50	49	97
Second 25 percent	61	60	98	57	55	97	84	83	98
Third 25 percent	75	74	98	71	70	98	84	83	98
Highest 25 percent	84	83	99	82	82	99	89	87	97
Highest 10 percent	86	85	99	85	85	99	89	85	96

See footnotes at end of table.

Table 5. Life insurance benefits: Access, participation, and take-up rates,¹ March 2016—continued

(All workers = 100 percent)

Characteristics	Civilian ²			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
Establishment characteristics									
Goods-producing industries	70	68	98	70	68	98	—	—	—
Service-providing industries	57	55	98	52	51	97	80	78	98
Education and health services	69	68	99	62	62	99	80	78	98
Educational services	77	75	98	67	66	98	79	78	98
Elementary and secondary schools	76	74	98	—	—	—	78	76	98
Junior colleges, colleges, and universities	85	83	98	87	86	98	84	81	97
Health care and social assistance	63	63	99	62	61	99	83	79	95
Hospitals	90	89	99	—	—	—	91	87	96
Public administration	82	81	98	—	—	—	82	81	98
1 to 99 workers	41	39	97	40	39	97	64	62	96
1 to 49 workers	36	35	98	35	34	98	64	62	97
50 to 99 workers	55	52	95	54	52	95	64	62	96
100 workers or more	76	74	98	74	72	98	82	80	98
100 to 499 workers	68	66	98	67	65	98	75	73	98
500 workers or more	85	83	98	85	84	99	85	83	98
Geographic areas									
Northeast	59	58	98	56	55	98	81	79	98
New England	58	56	97	56	54	98	71	66	92
Middle Atlantic	60	59	99	56	55	98	85	84	99
South	61	59	97	57	55	97	82	80	97
South Atlantic	60	59	98	56	55	98	83	81	98
East South Central	62	59	96	56	53	96	89	85	96
West South Central	62	60	96	60	57	96	76	75	98
Midwest	62	60	98	59	57	98	79	77	98
East North Central	61	59	97	58	56	98	79	76	97
West North Central	64	63	98	61	59	98	79	79	100
West	51	50	98	48	47	98	76	75	99
Mountain	54	53	98	50	49	98	80	79	99
Pacific	50	49	98	46	45	98	75	73	98

¹ The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan, rounded for presentation. See Technical Note for more details.

² Includes workers in the private nonfarm economy except those in private households, and workers in the public sector, except the federal government. See Technical Note for further explanation.

³ Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2016.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20152016.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 6. Selected paid leave benefits: Access, March 2016

(All workers = 100 percent)

Characteristics	Civilian ¹			Private industry			State and local government		
	Paid sick leave	Paid vacation	Paid holidays	Paid sick leave	Paid vacation	Paid holidays	Paid sick leave	Paid vacation	Paid holidays
All workers	68	73	75	64	76	77	90	59	67
Worker characteristics									
Management, professional, and related	84	76	81	82	88	89	91	42	55
Management, business, and financial	89	95	96	89	97	97	–	–	–
Professional and related	82	68	74	78	83	85	91	35	49
Teachers	83	16	35	–	–	–	89	10	30
Primary, secondary, and special education school teachers	93	16	31	–	–	–	96	9	26
Registered nurses	79	88	89	–	–	–	–	–	–
Service	48	55	54	42	52	50	86	76	78
Protective service	72	76	77	47	58	64	90	89	87
Sales and office	70	80	81	69	79	81	91	85	86
Sales and related	60	72	73	60	72	73	–	–	–
Office and administrative support	77	85	86	75	85	86	92	86	87
Natural resources, construction, and maintenance	60	79	81	56	77	79	96	97	96
Construction, extraction, farming, fishing, and forestry	48	67	69	42	63	66	–	–	–
Installation, maintenance, and repair	72	90	92	69	90	91	–	–	–
Production, transportation, and material moving ...	61	80	82	59	81	83	89	64	74
Production	58	87	90	57	87	89	–	–	–
Transportation and material moving	63	74	76	61	75	76	–	–	–
Full time	80	87	88	76	91	90	98	66	74
Part time	31	35	39	30	36	40	43	21	28
Union	86	74	79	76	88	89	97	57	69
Nonunion	65	73	75	63	75	76	84	61	66
Average wage within the following categories: ²									
Lowest 25 percent	41	51	53	39	50	52	77	57	64
Lowest 10 percent	28	40	40	27	41	40	65	43	49
Second 25 percent	70	82	83	65	81	82	94	84	87
Third 25 percent	79	87	88	75	88	89	93	65	74
Highest 25 percent	87	79	83	84	91	92	97	35	48
Highest 10 percent	90	79	83	87	92	93	98	33	45

See footnotes at end of table.

Table 6. Selected paid leave benefits: Access, March 2016—continued

(All workers = 100 percent)

Characteristics	Civilian ¹			Private industry			State and local government		
	Paid sick leave	Paid vacation	Paid holidays	Paid sick leave	Paid vacation	Paid holidays	Paid sick leave	Paid vacation	Paid holidays
Establishment characteristics									
Goods-producing industries	63	87	89	63	87	89	—	—	—
Service-providing industries	68	71	73	64	74	74	90	59	67
Education and health services	79	66	73	73	79	83	91	42	55
Educational services	87	40	53	75	56	65	91	35	49
Elementary and secondary schools	90	28	42	—	—	—	91	26	41
Junior colleges, colleges, and universities	87	67	79	83	73	81	90	63	78
Health care and social assistance	74	83	86	73	83	86	91	89	91
Hospitals	84	93	94	—	—	—	93	93	93
Public administration	89	88	88	—	—	—	89	88	88
1 to 99 workers	56	68	69	55	68	69	81	66	71
1 to 49 workers	54	67	68	53	67	68	74	68	69
50 to 99 workers	62	72	73	60	72	73	90	65	73
100 workers or more	79	79	82	75	85	87	91	58	67
100 to 499 workers	74	80	82	72	83	85	88	60	63
500 workers or more	85	77	81	80	89	89	92	58	68
Geographic areas									
Northeast	70	73	74	67	76	76	90	55	60
New England	68	69	70	65	73	73	89	47	52
Middle Atlantic	71	75	76	68	77	78	91	58	63
South	66	76	78	62	78	79	91	61	69
South Atlantic	66	76	79	61	78	79	92	65	77
East South Central	68	78	78	62	81	79	93	63	72
West South Central	66	74	75	63	78	79	88	52	53
Midwest	64	74	75	60	77	76	87	55	67
East North Central	63	74	75	60	77	76	86	53	66
West North Central	65	73	74	60	76	75	90	58	69
West	71	70	74	68	71	74	91	64	70
Mountain	61	69	71	58	71	73	83	53	58
Pacific	76	70	75	73	71	75	94	68	74

¹ Includes workers in the private nonfarm economy except those in private households, and workers in the public sector, except the federal government. See Technical Note for further explanation.

² Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2016.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20152016.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Appendix table 1. Survey establishment response, March 2016

Establishments	Civilian	Private industry	State and local governments
Total in sampling frame ¹	6,173,978	5,946,179	227,799
Total in sample	11,400	9,811	1,589
Responding ²	8,358	6,886	1,472
Refused ³	2,102	2,009	93
Out of business or not in survey scope	940	916	24

¹ The list of establishments from which the survey sample was selected (sampling frame) was developed from State unemployment insurance reports and is based on the 2012 North American Industry Classification System (NAICS). For private industries, an establishment is usually a single physical location. For state and local governments, an establishment is defined as all locations of a government entity.

² Establishments that provided data at the initial interview.

³ Establishments that did not provide data at the initial interview. Data for establishments not responding at the time of update interviews are imputed. Detailed information on nonresponse adjustment and imputation can be found in BLS Handbook of Methods, Chapter 8, "National Compensation Measures," Bureau of Labor Statistics, on the Internet at www.bls.gov/opub/hom/pdf/homch8.pdf.

Source: Bureau of Labor Statistics, National Compensation Survey.

Appendix table 2. Number of workers represented,¹ March 2016

Occupational group ²	Civilian workers	Private industry workers	State and local government workers
All workers	133,189,200	114,163,700	19,025,500
Management, professional, and related	41,161,500	30,594,900	10,566,700
Management, business, and financial ...	12,096,200	10,524,200	–
Professional and related	29,065,400	20,070,700	8,994,700
Teachers	6,698,400	–	5,045,200
Primary, secondary, and special education school teachers	4,466,600	–	3,738,900
Registered nurses	3,029,800	–	–
Service	28,598,200	24,593,500	4,004,600
Protective service	3,265,900	1,394,000	1,871,900
Sales and office	33,202,200	30,552,300	2,649,900
Sales and related	12,487,200	12,372,400	–
Office and administrative support	20,715,000	18,179,900	2,535,100
Natural resources, construction, and maintenance	10,523,800	9,531,000	992,800
Construction, extraction, farming, fishing, and forestry	5,103,100	4,532,900	–
Installation, maintenance, and repair	5,420,700	4,998,100	–
Production, transportation, and material moving	19,703,600	18,892,100	811,500
Production	9,428,000	9,318,100	–
Transportation and material moving	10,275,600	9,574,000	–

¹ The number of workers represented by the survey are rounded to the nearest 100. Estimates of the number of workers provide a description of the size and composition of the labor force included in the survey. Estimates are not intended, however, for comparison to other statistical series to measure employment trends or levels.

² The 2010 Standard Occupational Classification system is used to classify workers.

Note: Because of rounding, sums of individual items may not equal totals. Dashes indicate that no estimates for this characteristic are provided in this publication.

Source: Bureau of Labor Statistics, National Compensation Survey.



For release 10:00 a.m. (EDT) Friday, July 21, 2017

USDL-17-1013

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EMPLOYEE BENEFITS IN THE UNITED STATES – MARCH 2017

Retirement and medical care benefits were available to 70 percent of civilian workers in March 2017, the U.S. Bureau of Labor Statistics reported today. Ninety-four percent of union workers had access to employer-sponsored retirement and medical care benefits. For nonunion workers, 66 percent had access to retirement benefits and 67 percent to medical care benefits. (See chart 1 and tables 1 and 2.)

For civilian workers, the shares employers paid of medical care premium costs were 80 percent for single coverage and 68 percent for family coverage. The employee and employer shares of premiums also varied by bargaining status. Employers assumed 87 percent of the premium for single coverage for union workers and 79 percent for nonunion workers. For family coverage, union workers had 80 percent of the premium paid for by employers, whereas nonunion workers had 65 percent of the premium paid by employers. (See chart 2 and tables 3 and 4.)

Chart 1. Civilian workers' access to selected employer-sponsored benefits, March 2017

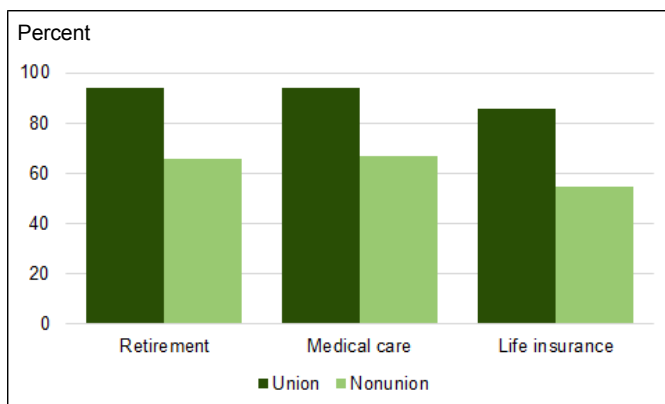
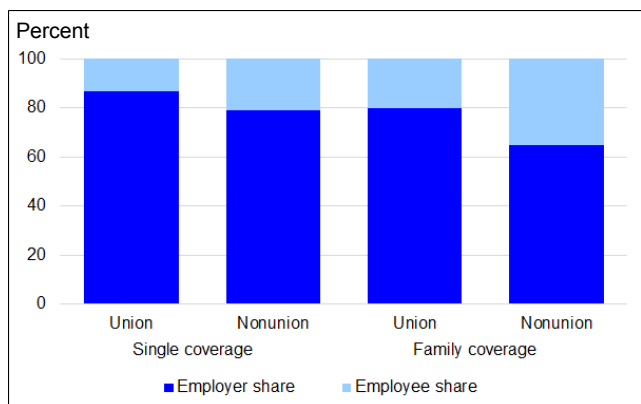


Chart 2. Civilian workers' shares of medical care premiums, March 2017



Fifty-nine percent of civilian workers had access to life insurance. Among union workers, 86 percent had access to life insurance benefits and for nonunion workers the rate was 55 percent. Work schedule also had an effect on availability of this workplace benefit. Seventy-five percent of full-time workers had access to life insurance, and 13 percent of part-time workers had access. (See chart 1 and table 5.)

Table A. Selected employer-sponsored benefits: Access, participation, and take-up rates, March 2017

(All workers = 100 percent)

Benefit	Civilian			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
Retirement	70	54	77	66	50	75	91	80	88
Medical care	70	52	74	67	49	72	89	71	80
Life insurance	59	58	98	55	54	98	81	79	98

Note: For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20162017.htm and the technical note.

Highlights of employer-sponsored benefits for private industry workers

- Among major occupational groups, access to retirement benefits ranged from 42 percent for workers in service occupations to 82 percent for workers in management, professional, and related occupations. (See table 1.)
- Eighty-five percent of full-time workers and 19 percent of part-time workers had access to medical care benefits. (See table 2.)
- Participation rates in life insurance ranged from 12 percent for workers with an average wage in the lowest 10 percent category to 85 percent for workers with an average wage in the highest 10 percent category. (See table 5.)
- For full-time workers, access to paid vacation was 91 percent and access to paid holidays was 90 percent. For part-time workers, the corresponding figures were 36 percent and 41 percent, respectively. (See table 6.)
- The shares of medical care premiums paid by employees for single coverage ranged from 26 percent for workers with an average wage in the lowest 10 percent category to 20 percent for workers with an average wage in the highest 10 percent category. For family coverage, the shares ranged from 41 percent to 28 percent for the same two wage categories. (See tables 3 and 4.)

Highlights of employer-sponsored benefits for state and local government workers

- Among full-time workers, access to both retirement and medical care benefits was 99 percent. Part-time workers' access to these benefits was 46 percent and 27 percent, respectively. (See tables 1 and 2.)
- Fifty-eight percent of workers with average wages in the lowest 10 percent category and 82 percent in the highest 10 percent category participated in retirement benefits. For medical care benefits, participation was 46 percent and 74 percent, respectively. (See tables 1 and 2.)
- Access to life insurance benefits was 70 percent in establishments employing 1 to 49 workers and 86 percent in those employing 500 workers or more. (See table 5.)
- The shares of medical care premiums paid by employees for family coverage ranged from 40 percent for workers with an average wage in the lowest 10 percent category to 25 percent for workers with an average wage in the highest 10 percent category. (See table 4.)

Additional Estimates Available Fall 2017

More information will be published September 22, 2017 on the incidence and provisions of health care benefits, retirement benefits, life insurance, short-term and long-term disability benefits, paid holidays and vacations, and other selected benefits. For more information on employer-sponsored benefits, see www.bls.gov/ebs.

TECHNICAL NOTE

Estimates in this release are from the National Compensation Survey (NCS), conducted by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). This news release contains March 2017 estimates on the incidence (access to and participation in) of selected employer-sponsored benefits and the share of premiums paid by employers and employees for medical plans for civilian, private industry, and state and local government workers in the United States. Workers in the civilian economy are defined as those employed in private industry and state and local government. Excluded from the civilian economy are workers employed in federal and quasi-federal agencies, military personnel, agricultural workers, volunteers, unpaid workers, individuals receiving long-term disability compensation, and those working overseas. In addition, private industry excludes workers in private households, the self-employed, workers who set their own pay (e.g., proprietors, owners, major stockholders, and partners in unincorporated firms), and family members paid token wages.

The NCS provides comprehensive measures of compensation cost levels and trends and also provides benefits incidence estimates on the percentage of workers with access to and participating in employer-provided benefit plans. The survey covers a broad range of benefits including holidays and vacations, sick leave, life insurance, and detailed provisions for health care and retirement plans. Archived NCS releases are available at www.bls.gov/ncs/ncspubs.htm.

Comparing private and public sector data: Incidence of employee benefits in state and local government should not be directly compared to private industry. Differences between these sectors stem from factors such as variation in work activities and occupational structures. Manufacturing and sales, for example, make up a large part of private industry work activities but are rare in state and local government. Administrative support and professional occupations (including teachers) account for two-thirds of the state and local government workforce, compared with one-half of private industry.

Leave benefits for teachers: Primary, secondary, and special education teachers typically have a work schedule of 37 or 38 weeks per year. Because of this work schedule, they are generally not offered vacations or holidays. In many cases, the time off during winter and spring breaks during the school year are not considered vacation days for the purposes of this survey.

Medical plan premiums: The estimates for medical plan premiums are not based on actual decisions regarding medical coverage made by employees; instead they are based on the assumption that all employees in the occupation can opt for single or family coverage. Monthly premiums are collected when possible. Annual premiums are converted to monthly premiums by dividing by 12 months.

Sample rotation: The state and local government sample was replaced in its entirety for the March 2017 reference period. It was last replaced with the March 2007 reference period. The government sample is replaced less frequently than the private industry sample. One-third of the private industry sample is rotated each year except in years when the government sample is replaced.

Sample size: See appendix table 1 at the end of this release.

Survey scope: See appendix table 2 at the end of this release.

Geographic areas: Areas are defined by four census regions: Northeast, South, Midwest, and West. Census divisions within the regions are defined as follows: **New England:** Connecticut, Maine,

Massachusetts, New Hampshire, Rhode Island and Vermont; **Middle Atlantic:** New Jersey, New York, and Pennsylvania; **South Atlantic:** Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia; **East South Central:** Alabama, Kentucky, Mississippi, and Tennessee; **West South Central:** Arkansas, Louisiana, Oklahoma, and Texas; **East North Central:** Illinois, Indiana, Michigan, Ohio, and Wisconsin; **West North Central:** Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota; **Mountain:** Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming; and **Pacific:** Alaska, California, Hawaii, Oregon, and Washington.

Standard errors: To assist users in ascertaining the reliability of benefits estimates, standard errors are made available shortly after publication of the news release. Standard errors provide users a measure of the precision of an estimate to ensure that it is within an acceptable range for their intended purpose. For further information see www.bls.gov/ncs/ebs/nb_var.htm.

Obtaining information: For research articles on employee benefits, see the *Monthly Labor Review* benefits section at www.bls.gov/opub/mlr/subject/b.htm and *Beyond the Numbers: Pay and Benefits* at www.bls.gov/opub/btn/archive/home.htm. For further technical information, see Chapter 8, "National Compensation Measures," *BLS Handbook of Methods* at www.bls.gov/opub/hom/pdf/homch8.pdf.

Definitions of major terms:

Access: Employees are considered to have access to a benefit plan if it is available for their use. For example, if an employee is permitted to participate in a medical plan offered by the employer, but the employee declines to do so, he or she is placed in a category with those having access to medical care benefits.

Participation: Employees in contributory plans are considered participants in an insurance or retirement plan if they have paid required contributions and fulfilled any applicable service requirements. Employees in noncontributory plans are counted as participating regardless of whether they have fulfilled the service requirements. Note that the term "incidence" can refer to either rates of access or rates of participation in a benefit plan.

Take-up rate: The percentage of workers with access to a plan who participate in the plan.

Retirement benefits include defined benefit pension plans and defined contribution retirement plans. Workers are counted as having access or participating in retirement benefits if they have access or participate in at least one type of plan, defined benefit or defined contribution; some workers may have access to or participate in both. Differences in retirement plan participation are influenced by type of plan offered. Participation in defined benefit plans is often mandatory, subject to any applicable eligibility requirements, while participation in defined contribution plans is often voluntary.

Medical care benefits provide services or payments for services rendered in the hospital or by a qualified medical care provider.

Calculation details: Average hourly earnings from sampled occupations within an establishment were used to produce estimates for worker groups within six earnings categories: the lowest 10 percent, the lowest 25 percent, the second 25 percent, the third 25 percent, the highest 25 percent, and the highest 10 percent. The categories are based on unpublished March 2017 wages and salaries series from the *Employer Costs for Employee Compensation* at www.bls.gov/news.release/archives/ecec_06092017.pdf.

The percentiles were computed using earnings and scheduled hours of work reported for individual workers in sampled establishment jobs. Establishments in the survey are asked to report only individual worker earnings for each sampled job. For the calculation of the hourly percentile values, the individual worker hourly earnings are weighted and arrayed from lowest to highest. The values corresponding to the percentiles are:

Characteristics	Hourly wage percentiles				
	10	25	50 (median)	75	90
Civilian	\$10.00	\$12.86	\$19.23	\$30.95	\$47.02
Private industry	\$9.79	\$12.25	\$18.16	\$29.44	\$46.10
State and local government	\$13.19	\$17.79	\$26.50	\$37.75	\$51.18

The lowest 10-percent and 25-percent wage categories include those occupations with an average hourly wage less than the 10th percentile value and 25th percentile value, respectively. The second 25-percent category includes those occupations that earn at or above the 25th percentile value but less than the 50th percentile value. The third 25-percent category includes those occupations that earn at or above the 50th percentile value but less than the 75th percentile value. Finally, the highest 25- and 10-percent wage categories include those occupations with an average wage value greater than or equal to the 75th and 90th percentile value, respectively.

Individual workers can be in an earnings category that is different from the occupation into which they are classified because average hourly earnings for the occupation are used to produce the benefit estimates.

Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

Table 1. Retirement benefits:¹ Access, participation, and take-up rates,² March 2017

(All workers = 100 percent)

Characteristics	Civilian ³			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
All workers	70	54	77	66	50	75	91	80	88
Worker characteristics									
Management, professional, and related	85	73	86	82	70	86	94	81	86
Management, business, and financial	88	77	88	87	76	88	–	–	–
Professional and related	84	71	85	79	67	84	93	80	86
Teachers	85	74	87	–	–	–	94	81	86
Primary, secondary, and special education school teachers	94	82	87	–	–	–	99	86	87
Registered nurses	89	74	84	–	–	–	–	–	–
Service	47	30	62	42	22	54	84	76	90
Protective service	79	63	80	61	32	52	92	86	94
Sales and office	72	53	74	70	51	72	91	80	88
Sales and related	67	41	62	67	41	61	–	–	–
Office and administrative support	75	60	80	72	57	79	92	81	88
Natural resources, construction, and maintenance	66	52	79	63	48	77	97	89	91
Construction, extraction, farming, fishing, and forestry	62	49	80	58	45	78	–	–	–
Installation, maintenance, and repair	69	54	78	67	51	76	–	–	–
Production, transportation, and material moving ...	71	54	76	71	53	75	90	80	89
Production	74	56	76	74	56	76	–	–	–
Transportation and material moving	69	52	75	68	50	74	–	–	–
Full time	81	65	80	77	60	78	99	87	88
Part time	38	22	59	38	21	56	46	39	84
Union	94	83	88	92	82	90	97	83	86
Nonunion	66	49	75	64	47	73	86	77	89
Average wage within the following categories: ⁴									
Lowest 25 percent	45	25	55	42	21	51	78	68	87
Lowest 10 percent	34	15	44	33	14	41	67	58	87
Second 25 percent	70	52	74	66	46	70	94	83	88
Third 25 percent	82	68	83	78	64	81	98	86	88
Highest 25 percent	90	80	89	88	77	88	97	84	87
Highest 10 percent	91	81	89	89	81	90	96	82	85

See footnotes at end of table.

Table 1. Retirement benefits:¹ Access, participation, and take-up rates,² March 2017—continued

(All workers = 100 percent)

Characteristics	Civilian ³			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
Establishment characteristics									
Goods-producing industries	75	60	80	75	60	80	—	—	—
Service-providing industries	69	53	77	65	48	74	91	80	88
Education and health services	80	65	81	72	57	79	93	79	85
Educational services	88	76	86	72	64	89	93	79	86
Elementary and secondary schools	90	78	87	—	—	—	93	80	86
Junior colleges, colleges, and universities	91	77	85	88	78	89	92	76	83
Health care and social assistance	74	57	78	72	56	77	93	78	83
Hospitals	91	78	86	—	—	—	93	77	83
Public administration	91	84	92	—	—	—	91	84	92
1 to 99 workers	55	40	73	53	37	71	87	79	90
1 to 49 workers	50	36	72	49	34	71	85	78	91
50 to 99 workers	68	50	73	65	46	70	90	80	89
100 workers or more	85	68	80	83	65	78	93	80	87
100 to 499 workers	80	61	76	79	58	73	91	81	90
500 workers or more	91	77	85	89	76	85	93	80	86
Geographic areas									
Northeast	72	58	82	68	55	80	91	80	88
New England	73	57	78	71	55	78	86	68	80
Middle Atlantic	71	59	83	67	54	81	93	84	90
South	71	53	74	67	47	71	94	83	89
South Atlantic	71	54	76	68	50	74	92	79	87
East South Central	72	50	70	68	44	64	94	85	91
West South Central	70	52	74	65	45	69	97	87	90
Midwest	73	56	77	70	53	75	90	76	85
East North Central	72	55	76	70	52	75	88	74	84
West North Central	75	58	77	72	54	75	92	80	87
West	64	51	79	60	46	77	89	78	88
Mountain	66	52	78	63	47	75	86	78	91
Pacific	63	50	80	58	45	78	90	79	87

¹ Includes defined benefit pension plans and defined contribution retirement plans. Workers are considered as having access or as participating if they have access to or are participating in at least one of these plan types.

² The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan, rounded for presentation.

³ Includes workers in private industry and state and local government. See Technical Note for further explanation.

⁴ Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2017.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20162017.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 2. Medical care benefits: Access, participation, and take-up rates,¹ March 2017

(All workers = 100 percent)

Characteristics	Civilian ²			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
All workers	70	52	74	67	49	72	89	71	80
Worker characteristics									
Management, professional, and related	88	67	76	86	65	75	92	72	79
Management, business, and financial	95	73	77	95	73	76	—	—	—
Professional and related	85	64	76	82	61	74	91	71	78
Teachers	84	63	75	—	—	—	92	71	77
Primary, secondary, and special education school teachers	95	70	74	—	—	—	99	75	76
Registered nurses	86	63	73	—	—	—	—	—	—
Service	44	29	66	39	23	61	80	65	81
Protective service	68	51	75	41	21	52	89	73	82
Sales and office	68	49	72	66	47	71	89	73	83
Sales and related	54	37	69	54	37	69	—	—	—
Office and administrative support	76	55	73	74	53	71	90	74	83
Natural resources, construction, and maintenance Construction, extraction, farming, fishing, and forestry	74	59	79	72	57	79	95	78	82
Installation, maintenance, and repair	67	56	83	65	54	83	—	—	—
Production, transportation, and material moving ... Production	81	62	77	79	60	76	—	—	—
Transportation and material moving	75	56	74	75	55	74	85	69	82
Production	81	62	76	81	62	76	—	—	—
Transportation and material moving	69	50	72	69	49	71	—	—	—
Full time	88	65	75	85	63	73	99	80	80
Part time	19	12	61	19	11	60	27	19	70
Union	94	76	81	93	79	84	95	73	77
Nonunion	67	48	72	65	46	71	83	69	83
Average wage within the following categories: ³									
Lowest 25 percent	37	23	63	33	20	60	72	58	80
Lowest 10 percent	24	14	57	22	12	55	59	46	78
Second 25 percent	75	53	72	71	49	69	93	76	81
Third 25 percent	87	67	77	85	64	76	97	78	81
Highest 25 percent	93	73	78	92	72	78	95	74	78
Highest 10 percent	94	73	78	94	73	78	93	74	80

See footnotes at end of table.

Table 2. Medical care benefits: Access, participation, and take-up rates,¹ March 2017—continued

(All workers = 100 percent)

Characteristics	Civilian ²			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
Establishment characteristics									
Goods-producing industries	85	67	80	85	67	80	—	—	—
Service-providing industries	68	49	72	64	45	70	89	71	80
Education and health services	79	58	73	73	51	69	90	70	78
Educational services	86	66	77	75	56	74	90	69	77
Elementary and secondary schools	88	66	75	—	—	—	90	68	76
Junior colleges, colleges, and universities	90	72	80	90	70	78	90	74	82
Health care and social assistance	75	52	70	73	50	68	91	77	84
Hospitals	91	68	75	—	—	—	91	77	84
Public administration	90	75	83	—	—	—	90	75	83
1 to 99 workers	57	41	71	55	39	70	85	68	80
1 to 49 workers	53	37	71	51	36	70	82	67	82
50 to 99 workers	70	50	72	67	47	71	89	69	78
100 workers or more	84	63	75	82	61	74	90	72	80
100 to 499 workers	79	58	74	78	57	73	86	69	80
500 workers or more	90	69	77	89	67	76	92	73	80
Geographic areas									
Northeast	71	52	74	68	50	73	87	68	78
New England	70	49	70	67	46	70	88	64	73
Middle Atlantic	71	53	75	69	51	74	87	69	80
South	71	52	74	68	48	71	93	77	83
South Atlantic	70	51	73	67	47	71	91	75	83
East South Central	74	56	75	70	51	72	92	83	90
West South Central	71	53	74	67	48	72	96	78	81
Midwest	71	50	70	68	47	69	85	64	75
East North Central	70	49	70	69	47	69	83	64	77
West North Central	71	50	71	68	48	71	88	63	72
West	69	54	78	66	51	77	88	70	80
Mountain	68	52	76	66	50	76	86	67	78
Pacific	69	54	79	66	51	78	89	72	81

¹ The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan, rounded for presentation.

² Includes workers in private industry and state and local government. See Technical Note for further explanation.

³ Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2017.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20162017.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 3. Medical plans: Share of premiums paid by employer and employee for single coverage, March 2017

(In percent)

Characteristics	Civilian ¹		Private industry		State and local government	
	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium
All workers participating in single coverage medical plans	80	20	79	21	86	14
Worker characteristics						
Management, professional, and related	81	19	80	20	85	15
Management, business, and financial	80	20	79	21	—	—
Professional and related	82	18	80	20	85	15
Teachers	84	16	—	—	84	16
Primary, secondary, and special education school teachers	84	16	—	—	84	16
Registered nurses	80	20	—	—	—	—
Service	80	20	77	23	87	13
Protective service	87	13	81	19	88	12
Sales and office	79	21	78	22	88	12
Sales and related	77	23	77	23	—	—
Office and administrative support	80	20	78	22	88	12
Natural resources, construction, and maintenance	80	20	79	21	89	11
Construction, extraction, farming, fishing, and forestry	80	20	79	21	—	—
Installation, maintenance, and repair	80	20	79	21	—	—
Production, transportation, and material moving ...	80	20	79	21	86	14
Production	79	21	79	21	—	—
Transportation and material moving	80	20	80	20	—	—
Full time	80	20	79	21	86	14
Part time	78	22	77	23	85	15
Union	87	13	87	13	86	14
Nonunion	79	21	77	23	87	13
Average wage within the following categories: ²						
Lowest 25 percent	77	23	75	25	87	13
Lowest 10 percent	75	25	74	26	87	13
Second 25 percent	80	20	78	22	87	13
Third 25 percent	81	19	79	21	86	14
Highest 25 percent	81	19	80	20	85	15
Highest 10 percent	81	19	80	20	85	15

See footnotes at end of table.

Table 3. Medical plans: Share of premiums paid by employer and employee for single coverage, March 2017—continued

(In percent)

Characteristics	Civilian ¹		Private industry		State and local government	
	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium
Establishment characteristics						
Goods-producing industries	80	20	80	20	—	—
Service-providing industries	80	20	78	22	86	14
Education and health services	82	18	79	21	85	15
Educational services	84	16	80	20	85	15
Elementary and secondary schools	84	16	—	—	84	16
Junior colleges, colleges, and universities	84	16	80	20	86	14
Health care and social assistance	80	20	79	21	87	13
Hospitals	83	17	—	—	87	13
Public administration	88	12	—	—	88	12
1 to 99 workers	79	21	78	22	87	13
1 to 49 workers	79	21	78	22	88	12
50 to 99 workers	78	22	77	23	86	14
100 workers or more	81	19	80	20	86	14
100 to 499 workers	80	20	79	21	87	13
500 workers or more	83	17	81	19	86	14
Geographic areas						
Northeast	82	18	81	19	84	16
New England	78	22	78	22	77	23
Middle Atlantic	83	17	82	18	87	13
South	80	20	78	22	86	14
South Atlantic	79	21	78	22	85	15
East South Central	81	19	78	22	88	12
West South Central	79	21	77	23	87	13
Midwest	79	21	78	22	87	13
East North Central	79	21	78	22	85	15
West North Central	80	20	78	22	90	10
West	81	19	80	20	87	13
Mountain	79	21	78	22	87	13
Pacific	82	18	81	19	87	13

¹ Includes workers in private industry and state and local government. See Technical Note for further explanation.

² Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2017.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20162017.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 4. Medical plans: Share of premiums paid by employer and employee for family coverage, March 2017

(In percent)

Characteristics	Civilian ¹		Private industry		State and local government	
	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium
All workers participating in family coverage medical plans	68	32	67	33	71	29
Worker characteristics						
Management, professional, and related	69	31	68	32	70	30
Management, business, and financial	70	30	70	30	—	—
Professional and related	68	32	68	32	69	31
Teachers	65	35	—	—	66	34
Primary, secondary, and special education school teachers	64	36	—	—	65	35
Registered nurses	70	30	—	—	—	—
Service	65	35	62	38	73	27
Protective service	77	23	73	27	78	22
Sales and office	66	34	65	35	72	28
Sales and related	63	37	64	36	—	—
Office and administrative support	67	33	65	35	72	28
Natural resources, construction, and maintenance	68	32	68	32	74	26
Construction, extraction, farming, fishing, and forestry	68	32	68	32	—	—
Installation, maintenance, and repair	68	32	68	32	—	—
Production, transportation, and material moving ...	72	28	72	28	70	30
Production	73	27	73	27	—	—
Transportation and material moving	71	29	71	29	—	—
Full time	68	32	68	32	71	29
Part time	63	37	62	38	70	30
Union	80	20	83	17	76	24
Nonunion	65	35	65	35	66	34
Average wage within the following categories: ²						
Lowest 25 percent	60	40	59	41	66	34
Lowest 10 percent	57	43	59	41	60	40
Second 25 percent	67	33	66	34	74	26
Third 25 percent	70	30	68	32	69	31
Highest 25 percent	71	29	71	29	74	26
Highest 10 percent	73	27	72	28	75	25

See footnotes at end of table.

Table 4. Medical plans: Share of premiums paid by employer and employee for family coverage, March 2017—continued

(In percent)

Characteristics	Civilian ¹		Private industry		State and local government	
	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium	Employer share of premium	Employee share of premium
Establishment characteristics						
Goods-producing industries	72	28	72	28	—	—
Service-providing industries	67	33	66	34	71	29
Education and health services	65	35	64	36	67	33
Educational services	66	34	66	34	66	34
Elementary and secondary schools	64	36	—	—	64	36
Junior colleges, colleges, and universities	70	30	69	31	71	29
Health care and social assistance	65	35	63	37	74	26
Hospitals	73	27	—	—	75	25
Public administration	77	23	—	—	77	23
1 to 99 workers	64	36	63	37	73	27
1 to 49 workers	65	35	64	36	72	28
50 to 99 workers	64	36	62	38	73	27
100 workers or more	70	30	70	30	70	30
100 to 499 workers	67	33	66	34	71	29
500 workers or more	74	26	76	24	70	30
Geographic areas						
Northeast	74	26	72	28	82	18
New England	73	27	72	28	77	23
Middle Atlantic	74	26	72	28	84	16
South	64	36	64	36	63	37
South Atlantic	66	34	66	34	65	35
East South Central	66	34	66	34	63	37
West South Central	61	39	61	39	59	41
Midwest	69	31	69	31	73	27
East North Central	70	30	70	30	74	26
West North Central	68	32	67	33	72	28
West	69	31	67	33	75	25
Mountain	66	34	65	35	71	29
Pacific	70	30	68	32	77	23

¹ Includes workers in private industry and state and local government. See Technical Note for further explanation.

² Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2017.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20162017.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 5. Life insurance benefits: Access, participation, and take-up rates,¹ March 2017

(All workers = 100 percent)

Characteristics	Civilian ²			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
All workers	59	58	98	55	54	98	81	79	98
Worker characteristics									
Management, professional, and related	78	76	99	76	75	99	83	81	98
Management, business, and financial	85	84	99	84	83	99	—	—	—
Professional and related	75	73	98	71	70	99	82	80	98
Teachers	74	73	98	—	—	—	81	80	98
Primary, secondary, and special education school teachers	82	81	98	—	—	—	86	85	98
Registered nurses	76	75	98	—	—	—	—	—	—
Service	35	33	95	28	27	94	75	73	97
Protective service	71	68	96	50	48	95	86	84	97
Sales and office	56	55	98	54	52	98	82	79	97
Sales and related	42	40	96	42	40	96	—	—	—
Office and administrative support	64	63	98	62	61	98	82	80	97
Natural resources, construction, and maintenance Construction, extraction, farming, fishing, and forestry	57	55	97	54	52	97	90	88	99
Installation, maintenance, and repair	49	47	97	45	44	97	—	—	—
Production, transportation, and material moving ... Production	64	62	98	62	60	98	—	—	—
Transportation and material moving	63	61	97	62	60	97	80	78	98
Production	68	66	98	67	66	98	—	—	—
Transportation and material moving	58	55	96	56	54	95	—	—	—
Full time	75	73	98	71	70	98	91	89	98
Part time	13	12	90	12	11	89	24	22	95
Union	86	83	97	84	80	96	88	87	98
Nonunion	55	53	98	53	51	98	75	73	97
Average wage within the following categories: ³									
Lowest 25 percent	25	24	93	22	20	92	65	63	97
Lowest 10 percent	16	14	89	14	12	87	52	50	97
Second 25 percent	61	60	97	57	55	97	87	85	98
Third 25 percent	75	74	98	71	70	98	87	85	98
Highest 25 percent	84	83	99	83	82	99	88	86	98
Highest 10 percent	85	84	99	85	85	99	84	82	97

See footnotes at end of table.

Table 5. Life insurance benefits: Access, participation, and take-up rates,¹ March 2017—continued

(All workers = 100 percent)

Characteristics	Civilian ²			Private industry			State and local government		
	Access	Participation	Take-up rate	Access	Participation	Take-up rate	Access	Participation	Take-up rate
Establishment characteristics									
Goods-producing industries	70	68	98	70	68	98	—	—	—
Service-providing industries	57	56	98	53	51	98	81	79	98
Education and health services	69	68	98	62	62	99	82	80	97
Educational services	77	76	98	66	66	99	81	79	98
Elementary and secondary schools	76	75	98	—	—	—	79	77	98
Junior colleges, colleges, and universities	87	85	98	87	87	99	86	84	97
Health care and social assistance	64	63	99	61	61	99	88	84	96
Hospitals	88	87	99	—	—	—	88	84	95
Public administration	84	81	97	—	—	—	84	81	97
1 to 99 workers	43	42	97	40	39	97	74	73	98
1 to 49 workers	37	36	98	36	35	98	70	69	98
50 to 99 workers	57	55	97	54	52	97	79	77	98
100 workers or more	76	74	98	74	72	98	83	81	97
100 to 499 workers	68	66	97	66	64	97	77	75	97
500 workers or more	86	84	98	85	84	99	86	84	97
Geographic areas									
Northeast	60	59	98	56	55	98	82	80	98
New England	60	58	97	57	56	98	82	75	92
Middle Atlantic	59	59	99	56	55	99	82	82	99
South	61	60	97	58	56	97	82	80	97
South Atlantic	61	60	98	57	56	98	85	82	97
East South Central	58	56	96	55	53	96	74	71	96
West South Central	63	61	96	60	57	96	82	80	97
Midwest	61	60	98	58	57	98	81	79	98
East North Central	61	59	97	58	57	98	80	78	97
West North Central	62	61	98	59	57	98	81	80	99
West	53	52	98	48	47	98	79	78	98
Mountain	56	55	98	52	51	98	82	82	100
Pacific	51	50	98	47	46	98	78	77	98

¹ The take-up rate is an estimate of the percentage of workers with access to a plan who participate in the plan, rounded for presentation.

² Includes workers in private industry and state and local government. See Technical Note for further explanation.

³ Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2017.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20162017.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Table 6. Selected paid leave benefits: Access, March 2017

(All workers = 100 percent)

Characteristics	Civilian ¹			Private industry			State and local government		
	Paid sick leave	Paid vacation	Paid holidays	Paid sick leave	Paid vacation	Paid holidays	Paid sick leave	Paid vacation	Paid holidays
All workers	72	74	76	68	76	77	91	60	68
Worker characteristics									
Management, professional, and related	89	77	81	88	88	90	93	47	57
Management, business, and financial	94	95	96	93	97	97	-	-	-
Professional and related	88	69	75	85	83	86	93	40	52
Teachers	85	20	36	-	-	-	92	15	32
Primary, secondary, and special education school teachers	96	19	32	-	-	-	99	13	28
Registered nurses	90	89	89	-	-	-	-	-	-
Service	51	55	54	46	52	50	84	74	78
Protective service	77	76	79	58	58	64	91	89	90
Sales and office	75	80	82	73	80	82	92	86	88
Sales and related	64	72	74	64	72	74	-	-	-
Office and administrative support	81	85	87	79	85	87	92	86	88
Natural resources, construction, and maintenance	63	80	82	60	78	80	95	97	96
Construction, extraction, farming, fishing, and forestry	51	68	70	47	65	67	-	-	-
Installation, maintenance, and repair	74	91	92	73	91	92	-	-	-
Production, transportation, and material moving ...	63	81	83	62	82	83	89	63	71
Production	62	87	90	62	87	90	-	-	-
Transportation and material moving	65	75	76	63	76	77	-	-	-
Full time	84	87	88	81	91	90	99	67	74
Part time	36	35	40	35	36	41	45	23	34
Union	87	74	80	79	89	89	97	57	69
Nonunion	69	74	75	67	75	76	86	63	67
Average wage within the following categories: ²									
Lowest 25 percent	46	52	54	43	50	51	78	58	64
Lowest 10 percent	31	42	42	30	42	41	65	44	51
Second 25 percent	72	82	83	69	82	82	95	85	88
Third 25 percent	85	88	89	81	89	90	97	63	70
Highest 25 percent	91	80	83	89	91	92	96	41	52
Highest 10 percent	92	80	83	92	92	93	94	37	49

See footnotes at end of table.

Table 6. Selected paid leave benefits: Access, March 2017—continued

(All workers = 100 percent)

Characteristics	Civilian ¹			Private industry			State and local government		
	Paid sick leave	Paid vacation	Paid holidays	Paid sick leave	Paid vacation	Paid holidays	Paid sick leave	Paid vacation	Paid holidays
Establishment characteristics									
Goods-producing industries	67	88	90	67	88	90	—	—	—
Service-providing industries	72	71	73	69	74	75	91	60	67
Education and health services	84	67	73	80	79	82	92	44	55
Educational services	89	41	53	79	56	65	92	37	49
Elementary and secondary schools	91	27	40	—	—	—	92	26	39
Junior colleges, colleges, and universities	89	71	81	84	73	81	92	70	81
Health care and social assistance	81	83	85	80	83	85	93	91	92
Hospitals	93	93	93	—	—	—	93	90	92
Public administration	91	90	91	—	—	—	91	90	91
1 to 99 workers	61	68	69	59	69	70	89	56	64
1 to 49 workers	59	67	68	58	67	68	87	65	71
50 to 99 workers	67	69	71	63	72	73	92	46	57
100 workers or more	82	80	82	79	85	86	92	62	69
100 to 499 workers	77	79	82	75	82	84	90	60	68
500 workers or more	88	81	83	86	90	90	93	63	70
Geographic areas									
Northeast	74	73	75	71	76	77	90	57	64
New England	73	70	73	71	73	75	90	54	59
Middle Atlantic	74	74	76	71	76	77	90	58	66
South	70	76	78	66	79	80	92	62	69
South Atlantic	70	76	80	66	78	80	91	66	77
East South Central	70	79	80	66	83	81	90	61	71
West South Central	70	74	75	66	78	79	94	56	56
Midwest	67	74	74	64	77	76	90	55	66
East North Central	67	74	75	63	77	77	89	54	67
West North Central	68	73	72	64	76	73	92	56	63
West	77	71	74	75	72	74	92	67	71
Mountain	65	70	72	61	72	73	87	61	66
Pacific	83	71	75	82	72	75	94	69	74

¹ Includes workers in private industry and state and local government. See Technical Note for further explanation.

² Surveyed occupations are classified into wage categories based on the average wage for the occupation, which may include workers with earnings both above and below the threshold. The categories were formed using percentile estimates generated using wage data for March 2017.

Note: Dash indicates no workers in this category or data did not meet publication criteria. For definitions of major plans, key provisions, and related terms, see the "Glossary of Employee Benefit Terms" at www.bls.gov/ncs/ebs/glossary20162017.htm.

Source: Bureau of Labor Statistics, National Compensation Survey.

Appendix table 1. Survey establishment response, March 2017

Establishments	Civilian	Private industry	State and local governments
Total in sampling frame ¹	6,211,244	5,978,422	232,822
Total in sample	11,400	9,802	1,598
Responding ²	8,175	6,728	1,447
Refused ³	2,149	2,009	140
Out of business or not in survey scope	1,076	1,065	11

¹ The sampling frame was developed from state unemployment insurance reports and is based on the 2012 North American Industry Classification System (NAICS). With some minor exceptions, an establishment is a single economic unit that engages in one, or predominantly one, type of economic activity. For private industry, the establishment is usually at a single physical location such as a mine, factory, office, or store; if a sampled establishment is owned by a larger entity with many locations, only the employment and characteristics of the establishment selected for the sample are considered for the survey. For state and local governments, an establishment can include more than one physical location, such as a school district or a police department.

² Establishments that provided data at the initial interview.

³ Establishments that did not provide data at the initial interview. Data for establishments not responding at the time of update interviews are imputed. Detailed information on nonresponse adjustment and imputation can be found in BLS Handbook of Methods, Chapter 8, "National Compensation Measures," Bureau of Labor Statistics, on the Internet at www.bls.gov/opub/hom/pdf/homch8.pdf.

Source: Bureau of Labor Statistics, National Compensation Survey.

Appendix table 2. Number of workers represented,¹ March 2017

Occupational group ²	Civilian workers	Private industry workers	State and local government workers
All workers	135,130,100	115,818,600	19,311,400
Management, professional, and related	41,997,200	30,926,300	11,070,900
Management, business, and financial ...	12,124,700	10,499,300	–
Professional and related	29,872,400	20,427,000	9,445,400
Teachers	6,873,700	–	5,126,600
Primary, secondary, and special education school teachers	4,696,300	–	3,934,100
Registered nurses	3,141,400	–	–
Service	29,105,500	25,183,000	3,922,400
Protective service	3,247,200	1,391,000	1,856,200
Sales and office	33,398,500	30,687,000	2,711,500
Sales and related	12,452,600	12,366,800	–
Office and administrative support	20,945,800	18,320,200	2,625,700
Natural resources, construction, and maintenance	10,590,600	9,742,500	848,100
Construction, extraction, farming, fishing, and forestry	5,124,400	4,641,700	–
Installation, maintenance, and repair	5,466,200	5,100,800	–
Production, transportation, and material moving	20,038,400	19,279,900	758,500
Production	9,640,600	9,519,300	–
Transportation and material moving	10,397,800	9,760,500	–

¹ The numbers of workers represented by the survey are rounded to the nearest 100. Estimates of the number of workers provide a description of the size and composition of the labor force included in the survey. Estimates are not intended, however, for comparison to other statistical series to measure employment trends or levels.

² The 2010 Standard Occupational Classification system is used to classify workers.

Note: Because of rounding, sums of individual items may not equal totals. Dashes indicate that no estimates for this characteristic are provided in this publication.

Source: Bureau of Labor Statistics, National Compensation Survey.



For release 10:00 a.m. (EDT) Friday, June 9, 2017

USDL-17-0770

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EMPLOYER COSTS FOR EMPLOYEE COMPENSATION – MARCH 2017

Employer costs for employee compensation averaged \$35.28 per hour worked in March 2017, the U.S. Bureau of Labor Statistics reported today. Wages and salaries averaged \$24.10 per hour worked and accounted for 68.3 percent of these costs, while benefits averaged \$11.18 and accounted for the remaining 31.7 percent. Total employer compensation costs for **private industry** workers averaged \$33.11 per hour worked. Total employer compensation costs for **state and local government** workers averaged \$48.24 per hour worked.

Employer Costs for Employee Compensation (ECEC), a product of the National Compensation Survey, measures employer costs for wages, salaries, and employee benefits for nonfarm private and state and local government workers.

Chart 1. Employer costs per employee hour worked by selected metropolitan area and U.S., private industry, March 2017

Cost per hour worked

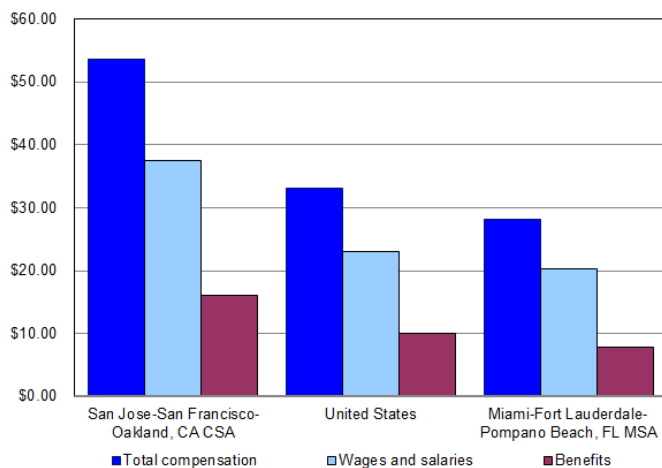
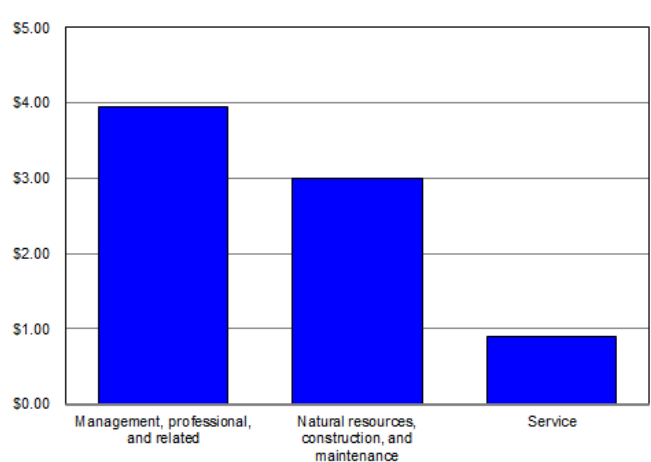


Chart 2. Employer health insurance costs per employee hour worked by selected occupational group, private industry, March 2017

Cost per hour worked



Metropolitan area costs in private industry

Total compensation, wages and salaries, and benefit costs in private industry are included in this release for 15 combined and metropolitan statistical areas (CSAs and MSAs). In March 2017, total compensation costs for the 15 areas ranged from \$28.20 per hour worked in the Miami-Fort Lauderdale-Pompano Beach, FL MSA to \$53.61 per hour worked in the San Jose-San Francisco-Oakland, CA CSA. (See chart 2 and table 15.)

Health insurance costs in private industry

The average cost for **health insurance** benefits was \$2.50 per hour worked in **private industry** (7.6 percent of total compensation) in March 2017. Among occupational groups, employer costs for health insurance benefits ranged from 90 cents per hour worked and 5.8 percent of total compensation for service occupations, to \$3.94 and 6.7 percent of total compensation for management, professional, and related occupations. (See table 5.)

Employer costs for health insurance benefits were significantly higher for union workers, averaging \$6.09 per hour worked (12.5 percent of total compensation), than for nonunion workers, averaging \$2.16 (6.8 percent of total compensation). (See table 5.)

In goods-producing industries, health insurance benefit costs were higher, at \$3.49 per hour worked (8.8 percent of total compensation), than in service-providing industries, at \$2.30 (7.2 percent). In goods-producing industries, health insurance benefit costs were \$3.77 (9.5 percent of total compensation) for manufacturing and \$2.91 (7.5 percent) for construction. In service-providing industries, health insurance benefit costs ranged from \$4.87 (9.0 percent) for information to 71 cents (5.0 percent) for leisure and hospitality. (See table 6.)

Among the four regions, costs for health insurance benefits were \$2.17 per hour worked (7.3 percent of total compensation) in the South, \$3.14 (7.6 percent) in the Northeast, \$2.51 (8.2 percent) in the Midwest, and \$2.49 (7.3 percent) in the West. (See table 7.)

Establishments with fewer than 50 workers averaged \$1.65 per hour worked for healthcare benefits (6.1 percent of total compensation); those with 50-99 workers averaged \$2.21 (7.2 percent); those with 100-499 employees averaged \$2.70 (8.3 percent); and those with 500 or more employees averaged \$4.35 (8.9 percent). (See table 8.)

Benefit costs in private industry

Private industry employer costs for **paid leave** averaged \$2.30 per hour worked or 6.9 percent of total compensation, **supplemental pay** averaged \$1.17 or 3.5 percent, **insurance** benefits averaged \$2.65 or 8.0 percent, **retirement and savings** averaged \$1.34 or 4.0 percent, and **legally required benefits** averaged \$2.60 per hour worked or 7.8 percent. (See table A and table 5.)

Table A. Relative importance of employer costs for employee compensation, March 2017

Compensation component	Civilian workers ¹	Private industry	State and local government
Wages and salaries	68.3%	69.6%	62.9%
Benefits	31.7	30.4	37.1
Paid leave	7.1	6.9	7.5
Supplemental pay	3.0	3.5	1.0
Insurance	8.8	8.0	11.9
Health	8.3	7.6	11.6
Retirement and savings	5.4	4.0	11.2
Defined benefit	3.5	1.8	10.4
Defined contribution	2.0	2.3	0.8
Legally required	7.4	7.8	5.6

¹ Includes workers in the private nonfarm economy, except those in private households, and workers in the public sector, except the federal government.

Employer Costs for Employee Compensation for June 2017 is scheduled to be released on Friday, September 8, 2017, at 10:00 a.m. (EDT).

Employer Costs for Employee Compensation data on total compensation, wages and salaries, and benefits in private industry are produced annually in the March reference period for 15 metropolitan areas. For further information about metropolitan area ECEC estimates see the September 2009 article, *BLS Introduces New Employer Costs for Employee Compensation Data for Private Industry Workers in 15 Metropolitan Areas*, at www.bls.gov/opub/mlr/cwc/bls-introduces-new-employer-costs-for-employee-compensation-data-for-private-industry-workers-in-15-metropolitan-areas.pdf.

Supplemental tables with occupational, establishment size, and bargaining status series by industry group are available at www.bls.gov/ncs/ect/sp/ecsuptc41.pdf and www.bls.gov/ncs/ect/sp/ecsuphst.pdf.

Relative standard errors for all cost estimates in the most recent news release are available at www.bls.gov/ncs/ect/sp/ececrse.pdf and www.bls.gov/ncs/ect/sp/ecsuprse.pdf.

Historical ECEC data are available in three listings, all available at www.bls.gov/ect/#tables. The earliest historical listing covers data for the March reference periods from 1986 to 2001. These data use the Standard Industrial Classification (SIC) and Census of Population occupational classification systems. A second listing contains data for the March, June, September, and December reference periods from March 2002 to December 2003. These data are also based on the SIC and Census of Population occupational classification systems. The most recent listing includes data from March 2004 to the current reference period. These are based on the North American Industry Classification System (NAICS) and Standard Occupational Classification (SOC) systems.

The Consolidated Statistical Areas (CSAs) and Metropolitan Statistical Areas (MSAs) are defined by the Office of Management and Budget (OMB) 2003 area definitions. For more information on the area definitions, visit www.census.gov/population/metro/data/pastmetro.html.

For information on health insurance provisions, see National Compensation Survey: Employee Benefits in the United States, March 2016, at www.bls.gov/ncs/ebs/benefits/2016/benefits.htm and National Compensation Survey: Health and Retirement Plan Provisions in the United States, 2015, at www.bls.gov/ncs/ebs/detailedprovisions/2015/ownership/private/health.htm#medical_care.

Information in this release will be made available to sensory impaired individuals upon request—Telephone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

BLS news releases, including the ECEC, are available through an e-mail subscription service at www.bls.gov/bls/list.htm.

TECHNICAL NOTE

Employer Costs for Employee Compensation (ECEC) measures the average cost to employers for wages and salaries and benefits per employee hour worked.

ECEC includes the civilian economy, which includes data from both private industry and state and local government. Excluded from private industry are the self-employed and farm and private household workers. Federal government workers are excluded from the public sector. The private industry series and the state and local government series provide data for the two sectors separately.

Sample size

Data for the March 2017 reference period were collected from a probability sample of approximately 27,900 occupational observations selected from a sample of about 6,700 private industry establishments and approximately 8,100 occupational observations selected from a sample of about 1,400 state and local government establishments that provided data at the initial interview.

ECEC benchmarking by establishment size and industry

For information on benchmarking by industry, see *The Weighting Process Used in the Employer Costs for Employee Compensation Series for the National Compensation Survey*, at www.bls.gov/osmr/pdf/st110220.pdf.

Comparing private and public sector data

Compensation cost levels in state and local government should not be directly compared with levels in private industry. Differences between these sectors stem from factors such as variation in work activities and occupational structures. Manufacturing and sales, for example, make up a large part of private industry work activities but are rare in state and local government. Professional and administrative support occupations (including teachers) account for two-thirds of the state and local government workforce, compared with one-half of private industry.

ECEC quarterly publication focus

ECEC news releases are published quarterly, providing civilian, private industry, and state and local government cost per hour estimates as well as additional detail on a specific compensation cost topic of interest. This quarter focuses on health insurance benefit costs in private industry. Topics of news releases for the upcoming reference periods are as follows:

- June 2017—Retirement and savings benefit costs in private industry
- September 2017—Compensation costs in state and local government

ECEC detailed information and measures

For detailed information on Employer Costs for Employee Compensation, see Chapter 8, "National Compensation Measures," of the *BLS Handbook of Methods* at www.bls.gov/opub/hom/pdf/homch8.pdf.

Table 1. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: civilian workers, by major occupational and industry group, March 2017

Compensation component	Occupational group							
	All workers ¹		Management, professional, and related		Sales and office		Service	
	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent
Total compensation	\$35.28	100.0	\$58.46	100.0	\$25.27	100.0	\$18.02	100.0
Wages and salaries	24.10	68.3	39.58	67.7	17.73	70.2	12.90	71.6
Total benefits	11.18	31.7	18.87	32.3	7.53	29.8	5.11	28.4
Paid leave	2.49	7.1	4.74	8.1	1.69	6.7	0.90	5.0
Vacation	1.21	3.4	2.27	3.9	0.84	3.3	0.43	2.4
Holiday	0.74	2.1	1.37	2.3	0.51	2.0	0.27	1.5
Sick	0.38	1.1	0.78	1.3	0.22	0.9	0.14	0.8
Personal	0.16	0.4	0.31	0.5	0.11	0.5	0.05	0.3
Supplemental pay	1.07	3.0	2.02	3.5	0.60	2.4	0.31	1.7
Overtime and premium ⁴	0.26	0.7	0.15	0.3	0.15	0.6	0.15	0.8
Shift differentials	0.06	0.2	0.08	0.1	0.02	0.1	0.05	0.3
Nonproduction bonuses	0.76	2.2	1.79	3.1	0.43	1.7	0.11	0.6
Insurance	3.09	8.8	4.78	8.2	2.42	9.6	1.41	7.8
Life	0.05	0.1	0.08	0.1	0.03	0.1	0.02	0.1
Health	2.94	8.3	4.53	7.7	2.32	9.2	1.36	7.6
Short-term disability	0.06	0.2	0.09	0.2	0.04	0.2	0.02	0.1
Long-term disability	0.05	0.1	0.08	0.1	0.03	0.1	(⁵)	(⁶)
Retirement and savings	1.92	5.4	3.72	6.4	0.93	3.7	0.81	4.5
Defined benefit	1.22	3.5	2.37	4.1	0.47	1.9	0.65	3.6
Defined contribution	0.69	2.0	1.34	2.3	0.46	1.8	0.16	0.9
Legally required benefits	2.61	7.4	3.61	6.2	1.90	7.5	1.69	9.4
Social Security and Medicare	1.95	5.5	3.09	5.3	1.48	5.8	1.08	6.0
Social Security ⁷	1.55	4.4	2.42	4.1	1.19	4.7	0.86	4.8
Medicare	0.40	1.1	0.67	1.1	0.29	1.1	0.21	1.2
Federal unemployment insurance	0.03	0.1	0.02	(⁶)	0.03	0.1	0.04	0.2
State unemployment insurance	0.16	0.5	0.15	0.3	0.15	0.6	0.15	0.8
Workers' compensation	0.47	1.3	0.35	0.6	0.23	0.9	0.43	2.4

See footnotes at end of table.

Table 1. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: civilian workers, by major occupational and industry group, March 2017 — Continued

Compensation component	Occupational group				Industry group			
	Natural resources, construction, and maintenance		Production, transportation, and material moving		Goods-producing ²		Service-providing ³	
	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent
Total compensation	\$35.63	100.0	\$28.07	100.0	\$39.45	100.0	\$34.57	100.0
Wages and salaries	23.82	66.9	18.52	66.0	26.19	66.4	23.74	68.7
Total benefits	11.81	33.1	9.55	34.0	13.26	33.6	10.83	31.3
Paid leave	1.95	5.5	1.69	6.0	2.59	6.6	2.47	7.1
Vacation	0.99	2.8	0.85	3.0	1.33	3.4	1.19	3.4
Holiday	0.63	1.8	0.56	2.0	0.90	2.3	0.72	2.1
Sick	0.22	0.6	0.20	0.7	0.26	0.7	0.40	1.1
Personal	0.10	0.3	0.08	0.3	0.10	0.3	0.17	0.5
Supplemental pay	1.03	2.9	0.99	3.5	1.47	3.7	1.00	2.9
Overtime and premium ⁴	0.70	2.0	0.57	2.0	0.58	1.5	0.20	0.6
Shift differentials	0.04	0.1	0.08	0.3	0.08	0.2	0.05	0.2
Nonproduction bonuses	0.29	0.8	0.34	1.2	0.81	2.1	0.75	2.2
Insurance	3.33	9.4	2.98	10.6	3.71	9.4	2.99	8.6
Life	0.04	0.1	0.04	0.1	0.06	0.2	0.04	0.1
Health	3.18	8.9	2.82	10.0	3.51	8.9	2.85	8.2
Short-term disability	0.08	0.2	0.06	0.2	0.08	0.2	0.05	0.2
Long-term disability	0.03	0.1	0.06	0.2	0.06	0.1	0.05	0.1
Retirement and savings	2.11	5.9	1.30	4.6	2.21	5.6	1.87	5.4
Defined benefit	1.47	4.1	0.76	2.7	1.22	3.1	1.23	3.5
Defined contribution	0.64	1.8	0.53	1.9	0.99	2.5	0.64	1.9
Legally required benefits	3.39	9.5	2.60	9.3	3.29	8.3	2.49	7.2
Social Security and Medicare	2.01	5.6	1.57	5.6	2.22	5.6	1.90	5.5
Social Security ⁷	1.62	4.5	1.26	4.5	1.78	4.5	1.51	4.4
Medicare	0.39	1.1	0.31	1.1	0.43	1.1	0.39	1.1
Federal unemployment insurance	0.03	0.1	0.03	0.1	0.03	0.1	0.03	0.1
State unemployment insurance	0.24	0.7	0.18	0.6	0.23	0.6	0.15	0.4
Workers' compensation	1.12	3.1	0.82	2.9	0.81	2.1	0.41	1.2

¹ Includes workers in the private nonfarm economy excluding households and the public sector excluding the Federal government.

² Includes mining, construction, and manufacturing. The agriculture, forestry, farming, and hunting sector is excluded.

³ Includes utilities; wholesale trade; retail trade; transportation and warehousing; information; finance and insurance; real estate and rental and leasing; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment and recreation; accommodation and food services; other services, except public administration; and public administration.

⁴ Includes premium pay (such as overtime, weekends, and holidays) for work in addition to the regular work schedule.

⁵ Cost per hour worked is \$0.01 or less.

⁶ Less than .05 percent.

⁷ Social Security refers to the Old-Age, Survivors, and Disability Insurance (OASDI) program.

Table 2. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: civilian workers, by occupational and industry group, March 2017

Series	Total compensation	Wages and salaries	Benefit costs					
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legally required benefits
Cost per hour worked								
Civilian workers ¹	\$35.28	\$24.10	\$11.18	\$2.49	\$1.07	\$3.09	\$1.92	\$2.61
Occupational group								
Management, professional, and related	58.46	39.58	18.87	4.74	2.02	4.78	3.72	3.61
Management, business, and financial	70.33	46.72	23.61	6.34	4.44	4.85	3.73	4.25
Professional and related	53.64	36.69	16.95	4.08	1.04	4.75	3.71	3.35
Teachers ²	58.40	40.21	18.18	2.93	0.23	5.96	5.99	3.07
Primary, secondary, and special education school teachers	58.54	39.39	19.15	2.76	0.21	6.50	6.85	2.83
Registered nurses	53.18	35.69	17.49	4.75	1.61	4.71	2.77	3.64
Sales and office	25.27	17.73	7.53	1.69	0.60	2.42	0.93	1.90
Sales and related	24.07	18.02	6.05	1.40	0.62	1.54	0.62	1.87
Office and administrative support	25.98	17.56	8.42	1.86	0.58	2.95	1.11	1.91
Service	18.02	12.90	5.11	0.90	0.31	1.41	0.81	1.69
Natural resources, construction, and maintenance	35.63	23.82	11.81	1.95	1.03	3.33	2.11	3.39
Construction, extraction, farming, fishing, and forestry ³	37.05	24.56	12.50	1.61	0.99	3.34	2.67	3.89
Installation, maintenance, and repair	34.30	23.13	11.17	2.26	1.07	3.33	1.58	2.92
Production, transportation, and material moving	28.07	18.52	9.55	1.69	0.99	2.98	1.30	2.60
Production	27.14	18.13	9.01	1.65	1.12	2.89	0.97	2.38
Transportation and material moving	28.93	18.89	10.04	1.72	0.86	3.06	1.60	2.80
Industry group								
Education and health services	40.52	27.53	12.99	2.96	0.53	4.06	2.87	2.57
Educational services	50.10	33.49	16.62	3.22	0.25	5.52	4.89	2.74
Elementary and secondary schools	48.70	32.30	16.40	2.61	0.20	5.68	5.41	2.50
Junior colleges, colleges, and universities	55.83	37.26	18.57	4.76	0.34	5.81	4.43	3.24
Health care and social assistance	34.20	23.60	10.60	2.78	0.72	3.10	1.54	2.46
Hospitals	45.60	29.78	15.82	4.24	1.46	4.73	2.35	3.04
Percent of total compensation								
Civilian workers ¹	100.0	68.3	31.7	7.1	3.0	8.8	5.4	7.4
Occupational group								
Management, professional, and related	100.0	67.7	32.3	8.1	3.5	8.2	6.4	6.2
Management, business, and financial	100.0	66.4	33.6	9.0	6.3	6.9	5.3	6.0
Professional and related	100.0	68.4	31.6	7.6	1.9	8.9	6.9	6.3
Teachers ²	100.0	68.9	31.1	5.0	0.4	10.2	10.3	5.3
Primary, secondary, and special education school teachers	100.0	67.3	32.7	4.7	0.4	11.1	11.7	4.8
Registered nurses	100.0	67.1	32.9	8.9	3.0	8.9	5.2	6.9
Sales and office	100.0	70.2	29.8	6.7	2.4	9.6	3.7	7.5
Sales and related	100.0	74.9	25.1	5.8	2.6	6.4	2.6	7.8
Office and administrative support	100.0	67.6	32.4	7.2	2.2	11.3	4.3	7.4
Service	100.0	71.6	28.4	5.0	1.7	7.8	4.5	9.4
Natural resources, construction, and maintenance	100.0	66.9	33.1	5.5	2.9	9.4	5.9	9.5
Construction, extraction, farming, fishing, and forestry ³	100.0	66.3	33.7	4.4	2.7	9.0	7.2	10.5
Installation, maintenance, and repair	100.0	67.4	32.6	6.6	3.1	9.7	4.6	8.5
Production, transportation, and material moving	100.0	66.0	34.0	6.0	3.5	10.6	4.6	9.3
Production	100.0	66.8	33.2	6.1	4.1	10.6	3.6	8.8
Transportation and material moving	100.0	65.3	34.7	5.9	3.0	10.6	5.5	9.7
Industry group								
Education and health services	100.0	67.9	32.1	7.3	1.3	10.0	7.1	6.3
Educational services	100.0	66.8	33.2	6.4	0.5	11.0	9.8	5.5
Elementary and secondary schools	100.0	66.3	33.7	5.4	0.4	11.7	11.1	5.1
Junior colleges, colleges, and universities	100.0	66.7	33.3	8.5	0.6	10.4	7.9	5.8
Health care and social assistance	100.0	69.0	31.0	8.1	2.1	9.1	4.5	7.2
Hospitals	100.0	65.3	34.7	9.3	3.2	10.4	5.1	6.7

¹ Includes workers in the private nonfarm economy excluding households and the public sector excluding the Federal government.

² Includes postsecondary teachers; primary, secondary, and special education teachers; and other teachers and instructors.

³ Farming, fishing, and forestry occupations were combined with construction and extraction occupational group as of December 2006.

Table 3. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: state and local government workers, by major occupational and industry group, March 2017

Compensation component	Occupational group ¹								Industry group	
	All workers		Management, professional, and related		Sales and office		Service		Service-providing ²	
	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent
Total compensation	\$48.24	100.0	\$57.99	100.0	\$33.26	100.0	\$34.87	100.0	\$48.32	100.0
Wages and salaries	30.34	62.9	37.68	65.0	19.44	58.4	20.26	58.1	30.42	62.9
Total benefits	17.90	37.1	20.31	35.0	13.82	41.6	14.61	41.9	17.90	37.1
Paid leave	3.62	7.5	4.09	7.1	2.93	8.8	2.94	8.4	3.62	7.5
Vacation	1.36	2.8	1.39	2.4	1.30	3.9	1.30	3.7	1.36	2.8
Holiday	1.04	2.1	1.13	1.9	0.90	2.7	0.90	2.6	1.04	2.1
Sick	0.93	1.9	1.18	2.0	0.58	1.7	0.59	1.7	0.93	1.9
Personal	0.29	0.6	0.39	0.7	0.15	0.5	0.15	0.4	0.29	0.6
Supplemental pay	0.48	1.0	0.39	0.7	0.29	0.9	0.72	2.1	0.47	1.0
Overtime and premium ³	0.20	0.4	0.08	0.1	0.16	0.5	0.43	1.2	0.20	0.4
Shift differentials	0.04	0.1	0.04	0.1	0.02	0.1	0.08	0.2	0.04	0.1
Nonproduction bonuses	0.23	0.5	0.27	0.5	0.11	0.3	0.21	0.6	0.23	0.5
Insurance	5.72	11.9	6.34	10.9	5.25	15.8	4.45	12.8	5.72	11.8
Life	0.07	0.1	0.08	0.1	0.06	0.2	0.06	0.2	0.07	0.1
Health	5.57	11.6	6.17	10.6	5.14	15.4	4.34	12.4	5.58	11.5
Short-term disability	0.03	0.1	0.04	0.1	0.03	0.1	0.02	0.1	0.03	0.1
Long-term disability	0.04	0.1	0.05	0.1	0.03	0.1	0.03	0.1	0.04	0.1
Retirement and savings	5.40	11.2	6.47	11.2	3.34	10.0	4.31	12.4	5.40	11.2
Defined benefit	5.01	10.4	5.96	10.3	3.11	9.4	4.11	11.8	5.02	10.4
Defined contribution	0.39	0.8	0.51	0.9	0.22	0.7	0.21	0.6	0.39	0.8
Legally required benefits	2.68	5.6	3.01	5.2	2.02	6.1	2.18	6.3	2.69	5.6
Social Security and Medicare	2.09	4.3	2.51	4.3	1.50	4.5	1.45	4.2	2.10	4.3
Social Security ⁴	1.60	3.3	1.91	3.3	1.18	3.5	1.11	3.2	1.60	3.3
Medicare	0.50	1.0	0.61	1.0	0.33	1.0	0.34	1.0	0.50	1.0
Federal unemployment insurance	(⁵)	(⁶)	(⁵)	(⁶)	(⁵)	(⁶)	(⁵)	(⁶)	(⁵)	(⁶)
State unemployment insurance	0.07	0.2	0.07	0.1	0.06	0.2	0.08	0.2	0.07	0.2
Workers' compensation	0.52	1.1	0.43	0.7	0.45	1.4	0.64	1.8	0.51	1.1

¹ This table presents data for the three major occupational groups in State and local government: management, professional, and related occupations, including teachers; sales and office occupations, including clerical workers; and service occupations, including police and firefighters.

² Service-providing industries, which include health and educational services, employ a large part of the State and local government workforce.

³ Includes premium pay (such as overtime, weekends, and holidays) for work in addition to the regular work schedule.

⁴ Social Security refers to the Old-Age, Survivors, and Disability Insurance (OASDI) program.

⁵ Cost per hour worked is \$0.01 or less.

⁶ Less than .05 percent.

Table 4. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: state and local government workers, by occupational and industry group, March 2017

Series	Total compensation	Wages and salaries	Benefit costs					Legally required benefits
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	
Cost per hour worked								
State and local government workers	\$48.24	\$30.34	\$17.90	\$3.62	\$0.48	\$5.72	\$5.40	\$2.68
Occupational group								
Management, professional, and related	57.99	37.68	20.31	4.09	0.39	6.34	6.47	3.01
Professional and related	56.43	36.95	19.48	3.64	0.36	6.35	6.23	2.90
Teachers ¹	63.80	42.84	20.96	3.25	0.25	7.00	7.38	3.09
Primary, secondary, and special education school teachers	63.41	42.14	21.26	2.99	0.23	7.26	7.84	2.95
Sales and office	33.26	19.44	13.82	2.93	0.29	5.25	3.34	2.02
Office and administrative support	33.43	19.50	13.93	2.94	0.29	5.32	3.36	2.02
Service	34.87	20.26	14.61	2.94	0.72	4.45	4.31	2.18
Industry group								
Education and health services	50.59	32.90	17.68	3.35	0.33	5.96	5.44	2.61
Educational services	51.84	33.92	17.92	3.23	0.25	6.08	5.73	2.63
Elementary and secondary schools	50.18	32.94	17.24	2.67	0.21	6.00	5.89	2.48
Junior colleges, colleges, and universities	56.71	36.81	19.91	4.92	0.34	6.34	5.24	3.06
Health care and social assistance	42.64	26.47	16.17	4.08	0.81	5.17	3.58	2.53
Hospitals	45.15	28.57	16.58	4.33	0.95	5.15	3.48	2.67
Public administration	46.31	27.09	19.22	4.33	0.73	5.56	5.73	2.88
Percent of total compensation								
State and local government workers	100.0	62.9	37.1	7.5	1.0	11.9	11.2	5.6
Occupational group								
Management, professional, and related	100.0	65.0	35.0	7.1	0.7	10.9	11.2	5.2
Professional and related	100.0	65.5	34.5	6.5	0.6	11.3	11.0	5.1
Teachers ¹	100.0	67.1	32.9	5.1	0.4	11.0	11.6	4.8
Primary, secondary, and special education school teachers	100.0	66.5	33.5	4.7	0.4	11.4	12.4	4.6
Sales and office	100.0	58.4	41.6	8.8	0.9	15.8	10.0	6.1
Office and administrative support	100.0	58.3	41.7	8.8	0.9	15.9	10.1	6.0
Service	100.0	58.1	41.9	8.4	2.1	12.8	12.4	6.3
Industry group								
Education and health services	100.0	65.0	35.0	6.6	0.6	11.8	10.7	5.2
Educational services	100.0	65.4	34.6	6.2	0.5	11.7	11.1	5.1
Elementary and secondary schools	100.0	65.6	34.4	5.3	0.4	11.9	11.7	4.9
Junior colleges, colleges, and universities	100.0	64.9	35.1	8.7	0.6	11.2	9.2	5.4
Health care and social assistance	100.0	62.1	37.9	9.6	1.9	12.1	8.4	5.9
Hospitals	100.0	63.3	36.7	9.6	2.1	11.4	7.7	5.9
Public administration	100.0	58.5	41.5	9.3	1.6	12.0	12.4	6.2

¹ Includes postsecondary teachers; primary, secondary, and special education teachers; and other teachers and instructors.

Table 5. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by major occupational group and bargaining unit status, March 2017

Compensation component	Occupational group							
	All workers		Management, professional, and related		Sales and office		Service	
	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent
Total compensation	\$33.11	100.0	\$58.62	100.0	\$24.55	100.0	\$15.38	100.0
Wages and salaries	23.06	69.6	40.26	68.7	17.58	71.6	11.75	76.4
Total benefits	10.06	30.4	18.36	31.3	6.97	28.4	3.63	23.6
Paid leave	2.30	6.9	4.97	8.5	1.58	6.4	0.58	3.8
Vacation	1.18	3.6	2.59	4.4	0.80	3.2	0.29	1.9
Holiday	0.69	2.1	1.45	2.5	0.48	2.0	0.18	1.1
Sick	0.28	0.9	0.64	1.1	0.19	0.8	0.07	0.5
Personal	0.14	0.4	0.29	0.5	0.11	0.5	0.04	0.2
Supplemental pay	1.17	3.5	2.61	4.4	0.62	2.5	0.25	1.6
Overtime and premium ¹	0.26	0.8	0.18	0.3	0.15	0.6	0.11	0.7
Shift differentials	0.06	0.2	0.09	0.2	0.02	0.1	0.05	0.3
Nonproduction bonuses	0.85	2.6	2.34	4.0	0.45	1.8	0.09	0.6
Insurance	2.65	8.0	4.22	7.2	2.17	8.8	0.93	6.1
Life	0.04	0.1	0.08	0.1	0.03	0.1	(²)	(³)
Health	2.50	7.6	3.94	6.7	2.07	8.4	0.90	5.8
Short-term disability	0.06	0.2	0.11	0.2	0.04	0.2	(²)	(³)
Long-term disability	0.05	0.1	0.09	0.2	0.03	0.1	(²)	(³)
Retirement and savings	1.34	4.0	2.73	4.7	0.71	2.9	0.26	1.7
Defined benefit	0.59	1.8	1.09	1.9	0.24	1.0	0.11	0.7
Defined contribution	0.75	2.3	1.64	2.8	0.48	1.9	0.15	1.0
Legally required benefits	2.60	7.8	3.83	6.5	1.89	7.7	1.62	10.5
Social Security and Medicare	1.92	5.8	3.29	5.6	1.48	6.0	1.02	6.6
Social Security ⁴	1.54	4.6	2.60	4.4	1.19	4.8	0.83	5.4
Medicare	0.38	1.2	0.69	1.2	0.29	1.2	0.19	1.3
Federal unemployment insurance	0.03	0.1	0.03	0.1	0.04	0.1	0.04	0.3
State unemployment insurance	0.18	0.5	0.19	0.3	0.16	0.7	0.16	1.0
Workers' compensation	0.46	1.4	0.32	0.6	0.21	0.9	0.39	2.6

See footnotes at end of table.

Table 5. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by major occupational group and bargaining unit status, March 2017 — Continued

Compensation component	Occupational group				Bargaining unit status			
	Natural resources, construction, and maintenance		Production, transportation, and material moving		Union		Nonunion	
	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent
Total compensation	\$35.19	100.0	\$27.71	100.0	\$48.94	100.0	\$31.58	100.0
Wages and salaries	23.81	67.7	18.40	66.4	29.34	60.0	22.44	71.1
Total benefits	11.37	32.3	9.31	33.6	19.60	40.0	9.13	28.9
Paid leave	1.80	5.1	1.65	5.9	3.51	7.2	2.18	6.9
Vacation	0.93	2.6	0.84	3.0	1.77	3.6	1.13	3.6
Holiday	0.59	1.7	0.55	2.0	1.04	2.1	0.66	2.1
Sick	0.18	0.5	0.19	0.7	0.52	1.1	0.26	0.8
Personal	0.10	0.3	0.07	0.3	0.18	0.4	0.13	0.4
Supplemental pay	1.05	3.0	1.00	3.6	1.44	2.9	1.15	3.6
Overtime and premium ¹	0.71	2.0	0.57	2.1	0.85	1.7	0.21	0.7
Shift differentials	0.04	0.1	0.08	0.3	0.19	0.4	0.05	0.1
Nonproduction bonuses	0.30	0.8	0.35	1.2	0.40	0.8	0.89	2.8
Insurance	3.16	9.0	2.88	10.4	6.46	13.2	2.28	7.2
Life	0.04	0.1	0.04	0.1	0.08	0.2	0.04	0.1
Health	3.00	8.5	2.72	9.8	6.09	12.5	2.16	6.8
Short-term disability	0.09	0.2	0.06	0.2	0.17	0.3	0.05	0.2
Long-term disability	0.03	0.1	0.06	0.2	0.12	0.2	0.04	0.1
Retirement and savings	1.92	5.5	1.19	4.3	4.46	9.1	1.03	3.3
Defined benefit	1.25	3.5	0.64	2.3	3.18	6.5	0.34	1.1
Defined contribution	0.67	1.9	0.55	2.0	1.28	2.6	0.69	2.2
Legally required benefits	3.44	9.8	2.59	9.4	3.73	7.6	2.49	7.9
Social Security and Medicare	2.02	5.7	1.56	5.6	2.43	5.0	1.87	5.9
Social Security ⁴	1.64	4.7	1.26	4.5	1.94	4.0	1.50	4.7
Medicare	0.38	1.1	0.30	1.1	0.50	1.0	0.37	1.2
Federal unemployment insurance	0.03	0.1	0.03	0.1	0.03	0.1	0.03	0.1
State unemployment insurance	0.25	0.7	0.18	0.7	0.24	0.5	0.17	0.5
Workers' compensation	1.14	3.2	0.82	3.0	1.03	2.1	0.41	1.3

¹ Includes premium pay (such as overtime, weekends, and holidays) for work in addition to the regular work schedule.

² Cost per hour worked is \$0.01 or less.

³ Less than .05 percent.

⁴ Social Security refers to the Old-Age, Survivors, and Disability Insurance (OASDI) program.

Table 6. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by major industry group, March 2017

Compensation component	Goods-producing ¹						Service-providing ²					
	All goods-producing ¹		Construction		Manufacturing		All service-providing ²		Trade, transportation, and utilities		Information	
	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent
Total compensation	\$39.42	100.0	\$38.73	100.0	\$39.66	100.0	\$31.83	100.0	\$27.44	100.0	\$54.36	100.0
Wages and salaries	26.22	66.5	26.96	69.6	25.87	65.2	22.41	70.4	19.31	70.4	35.71	65.7
Total benefits	13.20	33.5	11.77	30.4	13.79	34.8	9.42	29.6	8.14	29.6	18.64	34.3
Paid leave	2.57	6.5	1.70	4.4	3.00	7.6	2.24	7.0	1.73	6.3	5.00	9.2
Vacation	1.32	3.4	0.89	2.3	1.53	3.9	1.16	3.6	0.91	3.3	2.60	4.8
Holiday	0.89	2.3	0.59	1.5	1.04	2.6	0.65	2.1	0.50	1.8	1.28	2.4
Sick	0.26	0.7	0.13	0.3	0.32	0.8	0.29	0.9	0.22	0.8	0.55	1.0
Personal	0.10	0.3	0.09	0.2	0.11	0.3	0.14	0.4	0.09	0.3	0.56	1.0
Supplemental pay	1.48	3.8	1.04	2.7	1.65	4.1	1.11	3.5	0.71	2.6	2.36	4.3
Overtime and premium ³	0.58	1.5	0.62	1.6	0.55	1.4	0.20	0.6	0.28	1.0	0.25	0.5
Shift differentials	0.08	0.2	0.02	(⁴)	0.12	0.3	0.06	0.2	0.02	0.1	0.03	0.1
Nonproduction bonuses	0.82	2.1	0.40	1.0	0.98	2.5	0.85	2.7	0.41	1.5	2.07	3.8
Insurance	3.68	9.3	3.03	7.8	3.99	10.1	2.45	7.7	2.28	8.3	5.29	9.7
Life	0.06	0.2	0.04	0.1	0.07	0.2	0.04	0.1	0.03	0.1	0.07	0.1
Health	3.49	8.8	2.91	7.5	3.77	9.5	2.30	7.2	2.15	7.8	4.87	9.0
Short-term disability	0.08	0.2	0.05	0.1	0.09	0.2	0.06	0.2	0.04	0.2	0.25	0.5
Long-term disability	0.06	0.1	0.04	0.1	0.06	0.1	0.05	0.1	0.05	0.2	0.09	0.2
Retirement and savings	2.17	5.5	2.09	5.4	2.16	5.5	1.17	3.7	1.09	4.0	2.43	4.5
Defined benefit	1.18	3.0	1.29	3.3	1.09	2.7	0.47	1.5	0.51	1.9	0.91	1.7
Defined contribution	0.99	2.5	0.80	2.1	1.07	2.7	0.70	2.2	0.57	2.1	1.51	2.8
Legally required benefits	3.30	8.4	3.90	10.1	3.00	7.6	2.45	7.7	2.32	8.5	3.58	6.6
Social Security and Medicare	2.22	5.6	2.23	5.8	2.22	5.6	1.86	5.8	1.60	5.8	3.07	5.7
Social Security ⁶	1.79	4.5	1.80	4.7	1.78	4.5	1.49	4.7	1.28	4.7	2.46	4.5
Medicare	0.43	1.1	0.43	1.1	0.44	1.1	0.37	1.2	0.31	1.1	0.62	1.1
Federal unemployment insurance	0.03	0.1	0.03	0.1	0.03	0.1	0.04	0.1	0.04	0.1	0.03	0.1
State unemployment insurance	0.23	0.6	0.33	0.8	0.19	0.5	0.17	0.5	0.15	0.5	0.17	0.3
Workers' compensation	0.81	2.1	1.31	3.4	0.56	1.4	0.39	1.2	0.54	2.0	0.30	0.6

See footnotes at end of table.

Table 6. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by major industry group, March 2017 — Continued

Compensation component	Service-providing ²									
	Financial activities		Professional and business services		Education and health services		Leisure and hospitality		Other services	
	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent
Total compensation	\$46.80	100.0	\$40.46	100.0	\$35.00	100.0	\$14.14	100.0	\$26.71	100.0
Wages and salaries	30.62	65.4	28.78	71.1	24.59	70.2	11.16	78.9	19.36	72.5
Total benefits	16.18	34.6	11.68	28.9	10.42	29.8	2.98	21.1	7.34	27.5
Paid leave	3.97	8.5	2.91	7.2	2.74	7.8	0.41	2.9	1.62	6.1
Vacation	2.05	4.4	1.54	3.8	1.36	3.9	0.22	1.5	0.75	2.8
Holiday	1.14	2.4	0.87	2.2	0.80	2.3	0.12	0.8	0.55	2.1
Sick	0.52	1.1	0.32	0.8	0.41	1.2	0.05	0.4	0.20	0.8
Personal	0.25	0.5	0.17	0.4	0.17	0.5	0.03	0.2	0.11	0.4
Supplemental pay	3.51	7.5	2.00	5.0	0.64	1.8	0.14	1.0	0.36	1.4
Overtime and premium ³	0.19	0.4	0.22	0.5	0.19	0.5	0.07	0.5	0.15	0.6
Shift differentials	(⁵)	(⁴)	(⁵)	(⁴)	0.19	0.5	(⁵)	(⁴)	0.02	0.1
Nonproduction bonuses	3.30	7.1	1.78	4.4	0.27	0.8	0.06	0.4	0.20	0.8
Insurance	3.90	8.3	2.50	6.2	3.03	8.6	0.74	5.2	2.01	7.5
Life	0.06	0.1	0.05	0.1	0.04	0.1	(⁵)	(⁴)	0.04	0.1
Health	3.64	7.8	2.32	5.7	2.88	8.2	0.71	5.0	1.92	7.2
Short-term disability	0.13	0.3	0.06	0.2	0.05	0.1	(⁵)	(⁴)	0.03	0.1
Long-term disability	0.06	0.1	0.06	0.1	0.05	0.2	(⁵)	(⁴)	0.02	0.1
Retirement and savings	1.86	4.0	1.28	3.2	1.47	4.2	0.19	1.4	1.11	4.1
Defined benefit	0.58	1.2	0.54	1.3	0.52	1.5	0.09	0.7	0.61	2.3
Defined contribution	1.27	2.7	0.74	1.8	0.95	2.7	0.10	0.7	0.49	1.8
Legally required benefits	2.95	6.3	2.99	7.4	2.54	7.3	1.50	10.6	2.24	8.4
Social Security and Medicare	2.53	5.4	2.34	5.8	2.04	5.8	0.99	7.0	1.60	6.0
Social Security ⁶	1.99	4.2	1.85	4.6	1.64	4.7	0.80	5.7	1.29	4.8
Medicare	0.55	1.2	0.48	1.2	0.40	1.2	0.19	1.3	0.31	1.2
Federal unemployment insurance	0.03	0.1	0.03	0.1	0.03	0.1	0.05	0.4	0.03	0.1
State unemployment insurance	0.17	0.4	0.21	0.5	0.16	0.5	0.15	1.1	0.16	0.6
Workers' compensation	0.22	0.5	0.41	1.0	0.31	0.9	0.31	2.2	0.44	1.6

¹ Includes mining, construction, and manufacturing. The agriculture, forestry, farming, and hunting sector is excluded.

² Includes utilities; wholesale trade; retail trade; transportation and warehousing; information; finance and insurance; real estate and rental and leasing; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment and recreation; accommodation and food services; and other services, except public administration.

³ Includes premium pay (such as overtime, weekends, and holidays) for work in addition to the regular work schedule.

⁴ Less than .05 percent.

⁵ Cost per hour worked is \$0.01 or less.

⁶ Social Security refers to the Old-Age, Survivors, and Disability Insurance (OASDI) program.

Table 7. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by Census region and division, March 2017

Compensation component	Census region and division ¹									
	Northeast		Northeast divisions				South		South divisions	
	Cost	Percent	New England		Middle Atlantic		Cost	Percent	South Atlantic	
			Cost	Percent	Cost	Percent			Cost	Percent
Total compensation	\$41.19	100.0	\$40.10	100.0	\$41.55	100.0	\$29.84	100.0	\$31.04	100.0
Wages and salaries	27.47	66.7	28.23	70.4	27.21	65.5	21.18	71.0	21.88	70.5
Total benefits	13.72	33.3	11.87	29.6	14.34	34.5	8.66	29.0	9.16	29.5
Paid leave	3.06	7.4	2.97	7.4	3.10	7.5	2.04	6.8	2.23	7.2
Vacation	1.56	3.8	1.55	3.9	1.56	3.8	1.04	3.5	1.14	3.7
Holiday	0.90	2.2	0.88	2.2	0.91	2.2	0.63	2.1	0.66	2.1
Sick	0.41	1.0	0.37	0.9	0.43	1.0	0.24	0.8	0.27	0.9
Personal	0.19	0.5	0.18	0.4	0.20	0.5	0.14	0.5	0.16	0.5
Supplemental pay	2.51	6.1	1.13	2.8	2.97	7.1	0.87	2.9	0.83	2.7
Overtime and premium ²	0.25	0.6	0.26	0.6	0.25	0.6	0.29	1.0	0.24	0.8
Shift differentials	0.08	0.2	0.11	0.3	0.07	0.2	0.06	0.2	0.08	0.3
Nonproduction bonuses	2.18	5.3	0.77	1.9	2.65	6.4	0.52	1.7	0.51	1.7
Insurance	3.34	8.1	3.25	8.1	3.37	8.1	2.32	7.8	2.47	8.0
Life	0.05	0.1	0.04	0.1	0.05	0.1	0.05	0.2	0.05	0.2
Health	3.14	7.6	3.06	7.6	3.16	7.6	2.17	7.3	2.31	7.4
Short-term disability	0.10	0.2	0.09	0.2	0.10	0.2	0.05	0.2	0.06	0.2
Long-term disability	0.06	0.1	0.06	0.1	0.06	0.1	0.04	0.1	0.05	0.2
Retirement and savings	1.71	4.1	1.55	3.9	1.76	4.2	1.16	3.9	1.29	4.2
Defined benefit	0.77	1.9	0.60	1.5	0.83	2.0	0.52	1.7	0.59	1.9
Defined contribution	0.94	2.3	0.96	2.4	0.93	2.2	0.65	2.2	0.71	2.3
Legally required benefits	3.10	7.5	2.96	7.4	3.15	7.6	2.27	7.6	2.33	7.5
Social Security and Medicare	2.24	5.4	2.28	5.7	2.22	5.4	1.78	6.0	1.84	5.9
Social Security ³	1.76	4.3	1.82	4.5	1.74	4.2	1.43	4.8	1.48	4.8
Medicare	0.48	1.2	0.47	1.2	0.48	1.2	0.35	1.2	0.36	1.2
Federal unemployment insurance	0.02	0.1	0.02	0.1	0.02	0.1	0.02	0.1	0.03	0.1
State unemployment insurance	0.29	0.7	0.26	0.6	0.30	0.7	0.10	0.3	0.11	0.3
Workers' compensation	0.55	1.3	0.40	1.0	0.60	1.4	0.36	1.2	0.36	1.1

See footnotes at end of table.

Table 7. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by Census region and division, March 2017 — Continued

Compensation component	Census region and division ¹									
	South divisions				Midwest		Midwest divisions			
	East South Central		West South Central		Cost	Percent	East North Central		West North Central	
	Cost	Percent	Cost	Percent			Cost	Percent	Cost	Percent
Total compensation	\$25.42	100.0	\$30.07	100.0	\$30.51	100.0	\$30.80	100.0	\$29.86	100.0
Wages and salaries	18.04	71.0	21.60	71.8	21.26	69.7	21.39	69.4	20.97	70.2
Total benefits	7.38	29.0	8.47	28.2	9.25	30.3	9.41	30.6	8.90	29.8
Paid leave	1.66	6.5	1.92	6.4	2.09	6.9	2.12	6.9	2.02	6.8
Vacation	0.84	3.3	0.96	3.2	1.14	3.7	1.16	3.8	1.10	3.7
Holiday	0.55	2.1	0.62	2.0	0.62	2.0	0.63	2.0	0.58	2.0
Sick	0.19	0.7	0.22	0.7	0.22	0.7	0.22	0.7	0.22	0.8
Personal	0.09	0.3	0.12	0.4	0.11	0.4	0.11	0.4	0.12	0.4
Supplemental pay	0.65	2.6	1.05	3.5	0.85	2.8	0.88	2.9	0.78	2.6
Overtime and premium ²	0.30	1.2	0.36	1.2	0.27	0.9	0.29	0.9	0.23	0.8
Shift differentials	0.04	0.1	0.05	0.2	0.06	0.2	0.06	0.2	0.07	0.2
Nonproduction bonuses	0.31	1.2	0.64	2.1	0.51	1.7	0.53	1.7	0.48	1.6
Insurance	2.24	8.8	2.10	7.0	2.66	8.7	2.75	8.9	2.47	8.3
Life	0.04	0.1	0.04	0.1	0.04	0.1	0.04	0.1	0.04	0.1
Health	2.12	8.4	1.97	6.6	2.51	8.2	2.59	8.4	2.33	7.8
Short-term disability	0.04	0.1	0.04	0.1	0.06	0.2	0.07	0.2	0.06	0.2
Long-term disability	0.04	0.2	0.04	0.1	0.05	0.2	0.05	0.2	0.05	0.2
Retirement and savings	0.86	3.4	1.10	3.7	1.22	4.0	1.22	4.0	1.22	4.1
Defined benefit	0.36	1.4	0.48	1.6	0.48	1.6	0.53	1.7	0.35	1.2
Defined contribution	0.50	2.0	0.62	2.1	0.74	2.4	0.68	2.2	0.87	2.9
Legally required benefits	1.98	7.8	2.31	7.7	2.43	8.0	2.44	7.9	2.40	8.0
Social Security and Medicare	1.53	6.0	1.80	6.0	1.82	6.0	1.82	5.9	1.81	6.1
Social Security ³	1.24	4.9	1.45	4.8	1.47	4.8	1.47	4.8	1.46	4.9
Medicare	0.29	1.2	0.35	1.2	0.35	1.2	0.35	1.1	0.35	1.2
Federal unemployment insurance	0.02	0.1	0.02	0.1	0.03	0.1	0.03	0.1	0.03	0.1
State unemployment insurance	0.08	0.3	0.11	0.4	0.17	0.6	0.19	0.6	0.15	0.5
Workers' compensation	0.34	1.3	0.37	1.2	0.41	1.4	0.41	1.3	0.42	1.4

See footnotes at end of table.

Table 7. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by Census region and division, March 2017 — Continued

Compensation component	Census region and division ¹					
	West		West divisions			
	Cost	Percent	Mountain		Pacific	
			Cost	Percent	Cost	Percent
Total compensation	\$34.35	100.0	\$29.36	100.0	\$36.78	100.0
Wages and salaries	24.27	70.7	21.22	72.3	25.75	70.0
Total benefits	10.08	29.3	8.13	27.7	11.02	30.0
Paid leave	2.29	6.7	1.83	6.2	2.51	6.8
Vacation	1.16	3.4	0.95	3.2	1.26	3.4
Holiday	0.71	2.1	0.54	1.8	0.80	2.2
Sick	0.31	0.9	0.23	0.8	0.35	1.0
Personal	0.11	0.3	0.11	0.4	0.11	0.3
Supplemental pay	0.88	2.5	0.77	2.6	0.93	2.5
Overtime and premium ²	0.23	0.7	0.22	0.7	0.23	0.6
Shift differentials	0.03	0.1	0.03	0.1	0.03	0.1
Nonproduction bonuses	0.61	1.8	0.52	1.8	0.66	1.8
Insurance	2.61	7.6	2.14	7.3	2.84	7.7
Life	0.04	0.1	0.04	0.1	0.04	0.1
Health	2.49	7.3	2.02	6.9	2.72	7.4
Short-term disability	0.04	0.1	0.04	0.1	0.03	0.1
Long-term disability	0.04	0.1	0.04	0.1	0.04	0.1
Retirement and savings	1.43	4.2	1.04	3.6	1.62	4.4
Defined benefit	0.68	2.0	0.32	1.1	0.86	2.3
Defined contribution	0.75	2.2	0.72	2.5	0.76	2.1
Legally required benefits	2.87	8.4	2.35	8.0	3.13	8.5
Social Security and Medicare	2.00	5.8	1.79	6.1	2.10	5.7
Social Security ³	1.60	4.7	1.44	4.9	1.68	4.6
Medicare	0.40	1.2	0.34	1.2	0.42	1.1
Federal unemployment insurance	0.07	0.2	0.03	0.1	0.09	0.2
State unemployment insurance	0.21	0.6	0.15	0.5	0.23	0.6
Workers' compensation	0.60	1.8	0.39	1.3	0.70	1.9

¹ The Census divisions are defined as follows: New England: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont; Middle Atlantic: New Jersey, New York, and Pennsylvania; South Atlantic: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia; East South Central: Alabama, Kentucky, Mississippi, and Tennessee; West South Central: Arkansas, Louisiana, Oklahoma, and Texas; East North Central: Illinois, Indiana, Michigan, Ohio, and Wisconsin; West North Central: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota; Mountain: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming; and Pacific: Alaska, California, Hawaii, Oregon, and Washington.

² Includes premium pay (such as overtime, weekends, and holidays) for work in addition to the regular work schedule.

³ Social Security refers to the Old-Age, Survivors, and Disability Insurance (OASDI) program.

Table 8. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by establishment employment size, March 2017

Compensation component	1-99 workers						100 workers or more					
	1-99 workers		1-49 workers		50-99 workers		100 workers or more		100-499 workers		500 workers or more	
	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent	Cost	Percent
Total compensation	\$28.16	100.0	\$27.34	100.0	\$30.57	100.0	\$39.05	100.0	\$32.74	100.0	\$48.70	100.0
Wages and salaries	20.38	72.4	20.07	73.4	21.32	69.7	26.26	67.2	22.66	69.2	31.75	65.2
Total benefits	7.77	27.6	7.28	26.6	9.25	30.3	12.79	32.8	10.07	30.8	16.95	34.8
Paid leave	1.65	5.9	1.55	5.7	1.96	6.4	3.07	7.9	2.34	7.1	4.20	8.6
Vacation	0.84	3.0	0.79	2.9	1.01	3.3	1.60	4.1	1.22	3.7	2.17	4.5
Holiday	0.52	1.9	0.50	1.8	0.60	2.0	0.90	2.3	0.71	2.2	1.20	2.5
Sick	0.20	0.7	0.19	0.7	0.25	0.8	0.38	1.0	0.26	0.8	0.57	1.2
Personal	0.09	0.3	0.08	0.3	0.10	0.3	0.19	0.5	0.15	0.5	0.26	0.5
Supplemental pay	1.03	3.7	0.95	3.5	1.29	4.2	1.34	3.4	0.94	2.9	1.94	4.0
Overtime and premium ¹	0.20	0.7	0.18	0.7	0.24	0.8	0.35	0.9	0.32	1.0	0.38	0.8
Shift differentials	(²)	(³)	(²)	(³)	0.03	0.1	0.12	0.3	0.06	0.2	0.19	0.4
Nonproduction bonuses	0.83	2.9	0.76	2.8	1.01	3.3	0.87	2.2	0.56	1.7	1.36	2.8
Insurance	1.89	6.7	1.74	6.4	2.34	7.6	3.57	9.1	2.87	8.8	4.64	9.5
Life	0.03	0.1	0.03	0.1	0.04	0.1	0.06	0.1	0.05	0.1	0.07	0.1
Health	1.80	6.4	1.65	6.1	2.21	7.2	3.35	8.6	2.70	8.3	4.35	8.9
Short-term disability	0.03	0.1	0.03	0.1	0.04	0.1	0.09	0.2	0.07	0.2	0.12	0.2
Long-term disability	0.03	0.1	0.03	0.1	0.04	0.1	0.07	0.2	0.05	0.1	0.10	0.2
Retirement and savings	0.83	2.9	0.68	2.5	1.26	4.1	1.95	5.0	1.34	4.1	2.87	5.9
Defined benefit	0.32	1.1	0.24	0.9	0.56	1.8	0.91	2.3	0.59	1.8	1.40	2.9
Defined contribution	0.50	1.8	0.44	1.6	0.70	2.3	1.04	2.7	0.75	2.3	1.47	3.0
Legally required benefits	2.37	8.4	2.36	8.6	2.41	7.9	2.87	7.3	2.58	7.9	3.31	6.8
Social Security and Medicare	1.67	5.9	1.65	6.0	1.73	5.7	2.22	5.7	1.91	5.8	2.70	5.5
Social Security ⁴	1.34	4.7	1.32	4.8	1.37	4.5	1.78	4.6	1.53	4.7	2.16	4.4
Medicare	0.34	1.2	0.33	1.2	0.36	1.2	0.44	1.1	0.37	1.1	0.54	1.1
Federal unemployment insurance	0.04	0.1	0.04	0.1	0.03	0.1	0.03	0.1	0.03	0.1	0.03	0.1
State unemployment insurance	0.18	0.6	0.18	0.7	0.17	0.6	0.17	0.4	0.19	0.6	0.15	0.3
Workers' compensation	0.48	1.7	0.48	1.8	0.48	1.6	0.44	1.1	0.45	1.4	0.43	0.9

¹ Includes premium pay (such as overtime, weekends, and holidays) for work in addition to the regular work schedule.

² Cost per hour worked is \$0.01 or less.

³ Less than .05 percent.

⁴ Social Security refers to the Old-Age, Survivors, and Disability Insurance (OASDI) program.

Table 9. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, goods-producing and service-providing industries, by occupational group, March 2017

Series	Total compensation	Wages and salaries	Benefit costs					
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legally required benefits
Cost per hour worked								
All workers in private industry	\$33.11	\$23.06	\$10.06	\$2.30	\$1.17	\$2.65	\$1.34	\$2.60
Management, professional, and related	58.62	40.26	18.36	4.97	2.61	4.22	2.73	3.83
Management, business, and financial	70.84	47.46	23.38	6.29	5.04	4.63	3.09	4.34
Professional and related	52.35	36.57	15.78	4.29	1.36	4.02	2.55	3.57
Sales and office	24.55	17.58	6.97	1.58	0.62	2.17	0.71	1.89
Sales and related	24.04	18.02	6.01	1.39	0.63	1.53	0.60	1.87
Office and administrative support	24.90	17.28	7.62	1.71	0.62	2.60	0.79	1.90
Service	15.38	11.75	3.63	0.58	0.25	0.93	0.26	1.62
Natural resources, construction, and maintenance	35.19	23.81	11.37	1.80	1.05	3.16	1.92	3.44
Construction, extraction, farming, fishing, and forestry ¹	36.82	24.73	12.09	1.41	1.02	3.16	2.50	4.00
Installation, maintenance, and repair	33.69	22.98	10.72	2.14	1.09	3.17	1.39	2.92
Production, transportation, and material moving	27.71	18.40	9.31	1.65	1.00	2.88	1.19	2.59
Production	26.91	18.02	8.89	1.62	1.13	2.85	0.91	2.38
Transportation and material moving	28.50	18.77	9.72	1.67	0.87	2.92	1.46	2.81
All workers, goods-producing industries²	39.42	26.22	13.20	2.57	1.48	3.68	2.17	3.30
Management, professional, and related	70.55	47.21	23.34	6.10	2.52	5.24	4.88	4.60
Sales and office	33.58	23.20	10.38	2.36	1.02	3.20	1.18	2.61
Natural resources, construction, and maintenance	37.33	24.86	12.48	1.56	1.21	3.41	2.45	3.85
Production, transportation, and material moving	28.70	18.71	9.99	1.74	1.31	3.34	1.04	2.56
All workers, service-providing industries³	31.83	22.41	9.42	2.24	1.11	2.45	1.17	2.45
Management, professional, and related	57.00	39.32	17.68	4.81	2.62	4.08	2.44	3.72
Sales and office	23.95	17.21	6.75	1.53	0.60	2.10	0.68	1.84
Service	15.35	11.73	3.61	0.57	0.24	0.93	0.25	1.61
Natural resources, construction, and maintenance	32.51	22.51	9.99	2.08	0.86	2.85	1.26	2.93
Production, transportation, and material moving	26.97	18.17	8.80	1.58	0.76	2.54	1.30	2.62
Percent of total compensation								
All workers in private industry	100.0	69.6	30.4	6.9	3.5	8.0	4.0	7.8
Management, professional, and related	100.0	68.7	31.3	8.5	4.4	7.2	4.7	6.5
Management, business, and financial	100.0	67.0	33.0	8.9	7.1	6.5	4.4	6.1
Professional and related	100.0	69.9	30.1	8.2	2.6	7.7	4.9	6.8
Sales and office	100.0	71.6	28.4	6.4	2.5	8.8	2.9	7.7
Sales and related	100.0	75.0	25.0	5.8	2.6	6.4	2.5	7.8
Office and administrative support	100.0	69.4	30.6	6.8	2.5	10.5	3.2	7.6
Service	100.0	76.4	23.6	3.8	1.6	6.1	1.7	10.5
Natural resources, construction, and maintenance	100.0	67.7	32.3	5.1	3.0	9.0	5.5	9.8
Construction, extraction, farming, fishing, and forestry ¹	100.0	67.2	32.8	3.8	2.8	8.6	6.8	10.9
Installation, maintenance, and repair	100.0	68.2	31.8	6.4	3.2	9.4	4.1	8.7
Production, transportation, and material moving	100.0	66.4	33.6	5.9	3.6	10.4	4.3	9.4
Production	100.0	67.0	33.0	6.0	4.2	10.6	3.4	8.8
Transportation and material moving	100.0	65.9	34.1	5.9	3.1	10.2	5.1	9.9
All workers, goods-producing industries²	100.0	66.5	33.5	6.5	3.8	9.3	5.5	8.4
Management, professional, and related	100.0	66.9	33.1	8.6	3.6	7.4	6.9	6.5
Sales and office	100.0	69.1	30.9	7.0	3.0	9.5	3.5	7.8
Natural resources, construction, and maintenance	100.0	66.6	33.4	4.2	3.2	9.1	6.6	10.3
Production, transportation, and material moving	100.0	65.2	34.8	6.1	4.6	11.6	3.6	8.9
All workers, service-providing industries³	100.0	70.4	29.6	7.0	3.5	7.7	3.7	7.7
Management, professional, and related	100.0	69.0	31.0	8.4	4.6	7.2	4.3	6.5
Sales and office	100.0	71.8	28.2	6.4	2.5	8.8	2.9	7.7
Service	100.0	76.5	23.5	3.7	1.6	6.1	1.7	10.5
Natural resources, construction, and maintenance	100.0	69.3	30.7	6.4	2.7	8.8	3.9	9.0
Production, transportation, and material moving	100.0	67.4	32.6	5.9	2.8	9.4	4.8	9.7

¹ Farming, fishing, and forestry occupations were combined with construction and extraction occupational group as of December 2006.

² Includes mining, construction, and manufacturing. The agriculture, forestry, farming, and hunting sector is excluded.

³ Includes utilities; wholesale trade; retail trade; transportation and warehousing; information; finance and insurance; real estate and rental and leasing; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment and recreation; accommodation and food services; and other services, except public administration.

Table 10. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by industry group, March 2017

Series	Total compensation	Wages and salaries	Benefit costs					
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legally required benefits
Cost per hour worked								
All workers, goods-producing industries¹	\$39.42	\$26.22	\$13.20	\$2.57	\$1.48	\$3.68	\$2.17	\$3.30
Construction	38.73	26.96	11.77	1.70	1.04	3.03	2.09	3.90
Manufacturing	39.66	25.87	13.79	3.00	1.65	3.99	2.16	3.00
Aircraft manufacturing ²	71.69	43.38	28.31	6.44	4.22	7.56	5.62	4.47
All workers, service-providing industries³	31.83	22.41	9.42	2.24	1.11	2.45	1.17	2.45
Trade, transportation, and utilities	27.44	19.31	8.14	1.73	0.71	2.28	1.09	2.32
Wholesale trade	36.48	25.79	10.69	2.64	1.06	2.97	1.18	2.83
Retail trade	18.95	14.35	4.60	0.91	0.37	1.26	0.40	1.65
Transportation and warehousing	39.87	25.58	14.29	2.86	1.19	4.18	2.47	3.59
Utilities	61.76	36.98	24.78	5.34	2.50	6.32	6.28	4.34
Information	54.36	35.71	18.64	5.00	2.36	5.29	2.43	3.58
Financial activities	46.80	30.62	16.18	3.97	3.51	3.90	1.86	2.95
Finance and insurance	52.16	33.59	18.57	4.60	4.32	4.32	2.23	3.10
Credit intermediation and related activities	41.65	27.87	13.78	3.70	1.78	3.86	1.76	2.68
Insurance carriers and related activities	47.76	31.65	16.11	4.21	2.18	4.36	2.33	3.03
Real estate and rental and leasing	30.16	21.40	8.76	2.02	0.98	2.57	0.69	2.50
Professional and business services	40.46	28.78	11.68	2.91	2.00	2.50	1.28	2.99
Professional and technical services	51.14	36.74	14.40	4.29	1.34	3.49	1.77	3.51
Administrative and waste services	22.98	17.66	5.32	0.98	0.52	1.18	0.37	2.27
Education and health services	35.00	24.59	10.42	2.74	0.64	3.03	1.47	2.54
Educational services	44.31	32.05	12.26	3.17	0.23	3.64	2.11	3.10
Junior colleges, colleges, and universities	54.27	38.08	16.19	4.48	0.33	4.85	2.99	3.55
Health care and social assistance	33.46	23.35	10.11	2.67	0.71	2.93	1.36	2.45
Leisure and hospitality	14.14	11.16	2.98	0.41	0.14	0.74	0.19	1.50
Accommodation and food services	12.56	10.05	2.50	0.30	0.12	0.60	0.12	1.36
Other services	26.71	19.36	7.34	1.62	0.36	2.01	1.11	2.24
Percent of total compensation								
All workers, goods-producing industries¹	100.0	66.5	33.5	6.5	3.8	9.3	5.5	8.4
Construction	100.0	69.6	30.4	4.4	2.7	7.8	5.4	10.1
Manufacturing	100.0	65.2	34.8	7.6	4.1	10.1	5.5	7.6
Aircraft manufacturing ²	100.0	60.5	39.5	9.0	5.9	10.6	7.8	6.2
All workers, service-providing industries³	100.0	70.4	29.6	7.0	3.5	7.7	3.7	7.7
Trade, transportation, and utilities	100.0	70.4	29.6	6.3	2.6	8.3	4.0	8.5
Wholesale trade	100.0	70.7	29.3	7.2	2.9	8.2	3.2	7.8
Retail trade	100.0	75.7	24.3	4.8	2.0	6.6	2.1	8.7
Transportation and warehousing	100.0	64.2	35.8	7.2	3.0	10.5	6.2	9.0
Utilities	100.0	59.9	40.1	8.6	4.1	10.2	10.2	7.0
Information	100.0	65.7	34.3	9.2	4.3	9.7	4.5	6.6
Financial activities	100.0	65.4	34.6	8.5	7.5	8.3	4.0	6.3
Finance and insurance	100.0	64.4	35.6	8.8	8.3	8.3	4.3	5.9
Credit intermediation and related activities	100.0	66.9	33.1	8.9	4.3	9.3	4.2	6.4
Insurance carriers and related activities	100.0	66.3	33.7	8.8	4.6	9.1	4.9	6.3
Real estate and rental and leasing	100.0	70.9	29.1	6.7	3.3	8.5	2.3	8.3
Professional and business services	100.0	71.1	28.9	7.2	5.0	6.2	3.2	7.4
Professional and technical services	100.0	71.8	28.2	8.4	2.6	6.8	3.5	6.9
Administrative and waste services	100.0	76.8	23.2	4.3	2.2	5.1	1.6	9.9
Education and health services	100.0	70.2	29.8	7.8	1.8	8.6	4.2	7.3
Educational services	100.0	72.3	27.7	7.2	0.5	8.2	4.8	7.0
Junior colleges, colleges, and universities	100.0	70.2	29.8	8.2	0.6	8.9	5.5	6.5
Health care and social assistance	100.0	69.8	30.2	8.0	2.1	8.7	4.1	7.3
Leisure and hospitality	100.0	78.9	21.1	2.9	1.0	5.2	1.4	10.6
Accommodation and food services	100.0	80.1	19.9	2.4	0.9	4.8	0.9	10.9
Other services	100.0	72.5	27.5	6.1	1.4	7.5	4.1	8.4

¹ Includes mining, construction, and manufacturing. The agriculture, forestry, farming, and hunting sector is excluded.

² Data are available beginning with December 2006.

³ Includes utilities; wholesale trade; retail trade; transportation and warehousing; information; finance and insurance; real estate and rental and leasing; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment and recreation; accommodation and food services; and other services, except public administration.

Table 11. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by occupational group and full-time and part-time status, March 2017

Series	Total compensation	Wages and salaries	Benefit costs					
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legally required benefits
Cost per hour worked								
All full-time workers in private industry	\$38.96	\$26.50	\$12.46	\$2.96	\$1.52	\$3.38	\$1.69	\$2.90
Management, professional, and related	61.17	41.48	19.69	5.39	2.88	4.58	2.94	3.90
Management, business, and financial	71.37	47.70	23.67	6.37	5.13	4.68	3.14	4.35
Professional and related	54.92	37.66	17.25	4.78	1.50	4.52	2.83	3.63
Sales and office	29.32	20.40	8.92	2.14	0.83	2.88	0.94	2.13
Sales and related	34.33	24.89	9.44	2.43	1.05	2.50	1.02	2.44
Office and administrative support	27.10	18.41	8.69	2.01	0.73	3.04	0.91	1.99
Service	18.97	13.56	5.40	1.06	0.41	1.70	0.45	1.78
Natural resources, construction, and maintenance	36.00	24.19	11.81	1.89	1.11	3.33	2.00	3.49
Construction, extraction, farming, fishing, and forestry ¹	37.67	25.12	12.54	1.49	1.08	3.31	2.60	4.06
Installation, maintenance, and repair	34.49	23.34	11.15	2.25	1.13	3.34	1.46	2.97
Production, transportation, and material moving	29.86	19.64	10.22	1.89	1.14	3.23	1.26	2.69
Production	28.05	18.57	9.48	1.75	1.21	3.10	0.99	2.43
Transportation and material moving	32.03	20.91	11.11	2.06	1.06	3.40	1.58	3.01
All part-time workers in private industry	17.23	13.69	3.54	0.50	0.23	0.68	0.37	1.76
Management, professional, and related	40.69	31.72	8.97	2.00	0.70	1.71	1.25	3.31
Professional and related	40.51	31.52	8.98	2.00	0.70	1.71	1.29	3.29
Sales and office	14.29	11.52	2.78	0.37	0.18	0.64	0.22	1.36
Sales and related	12.89	10.59	2.31	0.26	0.17	0.47	0.15	1.25
Office and administrative support	16.49	12.97	3.52	0.54	0.19	0.91	0.33	1.55
Service	12.36	10.23	2.14	0.17	0.11	0.29	0.09	1.47
Production, transportation, and material moving	17.52	12.54	4.98	0.49	0.30	1.21	0.84	2.14
Transportation and material moving	18.37	12.63	5.74	0.56	0.33	1.52	1.09	2.23
Percent of total compensation								
All full-time workers in private industry	100.0	68.0	32.0	7.6	3.9	8.7	4.3	7.5
Management, professional, and related	100.0	67.8	32.2	8.8	4.7	7.5	4.8	6.4
Management, business, and financial	100.0	66.8	33.2	8.9	7.2	6.6	4.4	6.1
Professional and related	100.0	68.6	31.4	8.7	2.7	8.2	5.1	6.6
Sales and office	100.0	69.6	30.4	7.3	2.8	9.8	3.2	7.3
Sales and related	100.0	72.5	27.5	7.1	3.1	7.3	3.0	7.1
Office and administrative support	100.0	67.9	32.1	7.4	2.7	11.2	3.4	7.3
Service	100.0	71.5	28.5	5.6	2.2	9.0	2.4	9.4
Natural resources, construction, and maintenance	100.0	67.2	32.8	5.2	3.1	9.2	5.6	9.7
Construction, extraction, farming, fishing, and forestry ¹	100.0	66.7	33.3	3.9	2.9	8.8	6.9	10.8
Installation, maintenance, and repair	100.0	67.7	32.3	6.5	3.3	9.7	4.2	8.6
Production, transportation, and material moving	100.0	65.8	34.2	6.3	3.8	10.8	4.2	9.0
Production	100.0	66.2	33.8	6.2	4.3	11.0	3.5	8.6
Transportation and material moving	100.0	65.3	34.7	6.4	3.3	10.6	4.9	9.4
All part-time workers in private industry	100.0	79.5	20.5	2.9	1.3	3.9	2.1	10.2
Management, professional, and related	100.0	78.0	22.0	4.9	1.7	4.2	3.1	8.1
Professional and related	100.0	77.8	22.2	4.9	1.7	4.2	3.2	8.1
Sales and office	100.0	80.6	19.4	2.6	1.2	4.5	1.6	9.5
Sales and related	100.0	82.1	17.9	2.0	1.3	3.7	1.2	9.7
Office and administrative support	100.0	78.7	21.3	3.3	1.2	5.5	2.0	9.4
Service	100.0	82.7	17.3	1.4	0.9	2.3	0.8	11.9
Production, transportation, and material moving	100.0	71.6	28.4	2.8	1.7	6.9	4.8	12.2
Transportation and material moving	100.0	68.8	31.2	3.0	1.8	8.3	5.9	12.1

¹ Farming, fishing, and forestry occupations were combined with construction and extraction occupational group as of December 2006.
 Note: The sum of individual items may not equal totals due to rounding.

Table 12. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by industry group and full-time and part-time status, March 2017

Series	Total compensation	Wages and salaries	Benefit costs					Legally required benefits
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	
Cost per hour worked								
All full-time workers in private industry	\$38.96	\$26.50	\$12.46	\$2.96	\$1.52	\$3.38	\$1.69	\$2.90
Goods-producing ¹	40.01	26.50	13.51	2.65	1.52	3.79	2.23	3.32
Construction	39.79	27.50	12.29	1.81	1.09	3.21	2.22	3.95
Manufacturing	40.04	26.06	13.97	3.04	1.67	4.05	2.20	3.02
Service-providing ²	38.65	26.50	12.15	3.05	1.52	3.26	1.54	2.78
Trade, transportation, and utilities	34.61	23.80	10.81	2.49	1.00	3.09	1.46	2.77
Information	56.98	37.25	19.73	5.30	2.50	5.63	2.58	3.72
Financial activities	49.53	32.21	17.31	4.29	3.83	4.15	1.99	3.06
Professional and business services	44.34	30.99	13.34	3.44	2.33	2.93	1.49	3.16
Education and health services	37.80	25.87	11.93	3.22	0.72	3.66	1.73	2.59
Leisure and hospitality	19.22	14.05	5.17	1.00	0.30	1.70	0.45	1.72
Other services	32.03	22.61	9.42	2.31	0.50	2.75	1.32	2.53
All part-time workers in private industry	17.23	13.69	3.54	0.50	0.23	0.68	0.37	1.76
Service-providing ²	17.11	13.59	3.52	0.50	0.22	0.68	0.37	1.74
Trade, transportation, and utilities	14.72	11.33	3.39	0.39	0.21	0.84	0.42	1.53
Professional and business services	22.05	18.28	3.78	0.39	0.44	0.45	0.29	2.20
Education and health services	27.36	21.08	6.28	1.43	0.42	1.29	0.74	2.41
Leisure and hospitality	11.14	9.45	1.69	0.06	0.04	0.17	0.04	1.37
Percent of total compensation								
All full-time workers in private industry	100.0	68.0	32.0	7.6	3.9	8.7	4.3	7.5
Goods-producing ¹	100.0	66.2	33.8	6.6	3.8	9.5	5.6	8.3
Construction	100.0	69.1	30.9	4.5	2.7	8.1	5.6	9.9
Manufacturing	100.0	65.1	34.9	7.6	4.2	10.1	5.5	7.5
Service-providing ²	100.0	68.6	31.4	7.9	3.9	8.4	4.0	7.2
Trade, transportation, and utilities	100.0	68.8	31.2	7.2	2.9	8.9	4.2	8.0
Information	100.0	65.4	34.6	9.3	4.4	9.9	4.5	6.5
Financial activities	100.0	65.0	35.0	8.7	7.7	8.4	4.0	6.2
Professional and business services	100.0	69.9	30.1	7.8	5.3	6.6	3.4	7.1
Education and health services	100.0	68.4	31.6	8.5	1.9	9.7	4.6	6.9
Leisure and hospitality	100.0	73.1	26.9	5.2	1.5	8.8	2.4	8.9
Other services	100.0	70.6	29.4	7.2	1.6	8.6	4.1	7.9
All part-time workers in private industry	100.0	79.5	20.5	2.9	1.3	3.9	2.1	10.2
Service-providing ²	100.0	79.5	20.5	2.9	1.3	4.0	2.2	10.2
Trade, transportation, and utilities	100.0	77.0	23.0	2.6	1.5	5.7	2.9	10.4
Professional and business services	100.0	82.9	17.1	1.8	2.0	2.1	1.3	10.0
Education and health services	100.0	77.0	23.0	5.2	1.5	4.7	2.7	8.8
Leisure and hospitality	100.0	84.8	15.2	0.6	0.4	1.5	0.4	12.3

¹ Includes mining, construction, and manufacturing. The agriculture, forestry, farming, and hunting sector is excluded.

² Includes utilities; wholesale trade; retail trade; transportation and warehousing; information; finance and insurance; real estate and rental and leasing; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment and recreation; accommodation and food services; and other services, except public administration.

Table 13. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by major industry group and establishment employment size and bargaining unit status, March 2017

Series	Total compensation	Wages and salaries	Benefit costs					Legally required benefits
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	
Cost per hour worked								
All workers, goods-producing industries¹ ...	\$39.42	\$26.22	\$13.20	\$2.57	\$1.48	\$3.68	\$2.17	\$3.30
1-99 workers	33.09	23.39	9.70	1.69	0.93	2.62	1.24	3.22
1-49 workers	32.15	23.11	9.05	1.54	0.86	2.30	1.14	3.20
50-99 workers	35.62	24.14	11.48	2.07	1.14	3.49	1.51	3.27
100 workers or more	44.75	28.60	16.15	3.32	1.94	4.58	2.95	3.37
100-499 workers	39.15	25.62	13.53	2.66	1.44	4.14	2.06	3.24
500 workers or more	53.31	33.15	20.16	4.33	2.70	5.24	4.31	3.57
Union	48.76	28.30	20.46	2.57	1.88	6.93	4.94	4.14
Nonunion	37.68	25.83	11.85	2.57	1.40	3.08	1.65	3.14
All workers, service-providing industries² ..	31.83	22.41	9.42	2.24	1.11	2.45	1.17	2.45
1-99 workers	27.34	19.89	7.46	1.65	1.05	1.77	0.76	2.23
1-49 workers	26.57	19.58	6.99	1.55	0.97	1.65	0.61	2.22
50-99 workers	29.67	20.81	8.86	1.94	1.31	2.13	1.22	2.26
100 workers or more	37.61	25.67	11.95	3.01	1.18	3.31	1.70	2.74
100-499 workers	31.12	21.92	9.20	2.26	0.82	2.55	1.16	2.41
500 workers or more	47.54	31.40	16.14	4.16	1.74	4.49	2.51	3.24
Union	49.02	29.79	19.24	3.91	1.25	6.26	4.26	3.55
Nonunion	30.45	21.82	8.63	2.11	1.10	2.14	0.92	2.37
Percent of total compensation								
All workers, goods-producing industries¹ ...	100.0	66.5	33.5	6.5	3.8	9.3	5.5	8.4
1-99 workers	100.0	70.7	29.3	5.1	2.8	7.9	3.8	9.7
1-49 workers	100.0	71.9	28.1	4.8	2.7	7.2	3.6	9.9
50-99 workers	100.0	67.8	32.2	5.8	3.2	9.8	4.2	9.2
100 workers or more	100.0	63.9	36.1	7.4	4.3	10.2	6.6	7.5
100-499 workers	100.0	65.4	34.6	6.8	3.7	10.6	5.3	8.3
500 workers or more	100.0	62.2	37.8	8.1	5.1	9.8	8.1	6.7
Union	100.0	58.0	42.0	5.3	3.9	14.2	10.1	8.5
Nonunion	100.0	68.5	31.5	6.8	3.7	8.2	4.4	8.3
All workers, service-providing industries² ..	100.0	70.4	29.6	7.0	3.5	7.7	3.7	7.7
1-99 workers	100.0	72.7	27.3	6.0	3.8	6.5	2.8	8.2
1-49 workers	100.0	73.7	26.3	5.8	3.6	6.2	2.3	8.4
50-99 workers	100.0	70.2	29.8	6.5	4.4	7.2	4.1	7.6
100 workers or more	100.0	68.2	31.8	8.0	3.1	8.8	4.5	7.3
100-499 workers	100.0	70.4	29.6	7.3	2.6	8.2	3.7	7.8
500 workers or more	100.0	66.0	34.0	8.8	3.7	9.4	5.3	6.8
Union	100.0	60.8	39.2	8.0	2.6	12.8	8.7	7.3
Nonunion	100.0	71.7	28.3	6.9	3.6	7.0	3.0	7.8

¹ Includes mining, construction, and manufacturing. The agriculture, forestry, farming, and hunting sector is excluded.

² Includes utilities; wholesale trade; retail trade; transportation and warehousing; information; finance and insurance; real estate and rental and leasing; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment and recreation; accommodation and food services; and other services, except public administration.

Table 14. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry health care and social assistance workers, by industry and occupational group, March 2017

Series	Total compensation	Wages and salaries	Benefit costs					
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legally required benefits
Cost per hour worked								
Health care and social assistance	\$33.46	\$23.35	\$10.11	\$2.67	\$0.71	\$2.93	\$1.36	\$2.45
Management, professional, and related	47.48	32.91	14.56	4.13	1.01	3.87	2.33	3.22
Registered nurses	53.29	35.85	17.43	4.80	1.74	4.57	2.60	3.72
Sales and office	23.32	16.06	7.25	1.70	0.35	2.90	0.59	1.72
Service	18.98	13.64	5.34	1.11	0.46	1.67	0.39	1.71
Hospitals	45.69	30.03	15.66	4.22	1.57	4.64	2.11	3.12
Management, professional, and related	55.02	36.48	18.54	5.28	1.85	5.09	2.62	3.70
Registered nurses	57.45	37.76	19.69	5.41	2.21	5.27	2.88	3.92
Service	24.23	15.36	8.88	1.72	1.13	3.24	0.96	1.83
Nursing and residential care facilities	22.80	16.47	6.34	1.51	0.50	1.98	0.35	2.00
Management, professional, and related	34.95	25.61	9.34	2.47	0.71	2.72	0.67	2.78
Service	17.30	12.36	4.94	1.04	0.43	1.61	0.22	1.65
Nursing care facilities¹	25.52	18.32	7.20	1.74	0.61	2.23	0.50	2.12
Management, professional, and related	39.25	28.70	10.55	2.84	0.85	2.95	0.87	3.05
Service	18.47	13.00	5.47	1.14	0.51	1.84	0.32	1.65
Percent of total compensation								
Health care and social assistance	100.0	69.8	30.2	8.0	2.1	8.7	4.1	7.3
Management, professional, and related	100.0	69.3	30.7	8.7	2.1	8.1	4.9	6.8
Registered nurses	100.0	67.3	32.7	9.0	3.3	8.6	4.9	7.0
Sales and office	100.0	68.9	31.1	7.3	1.5	12.4	2.5	7.4
Service	100.0	71.9	28.1	5.9	2.4	8.8	2.0	9.0
Hospitals	100.0	65.7	34.3	9.2	3.4	10.2	4.6	6.8
Management, professional, and related	100.0	66.3	33.7	9.6	3.4	9.2	4.8	6.7
Registered nurses	100.0	65.7	34.3	9.4	3.9	9.2	5.0	6.8
Service	100.0	63.4	36.6	7.1	4.7	13.4	4.0	7.6
Nursing and residential care facilities	100.0	72.2	27.8	6.6	2.2	8.7	1.5	8.8
Management, professional, and related	100.0	73.3	26.7	7.1	2.0	7.8	1.9	8.0
Service	100.0	71.4	28.6	6.0	2.5	9.3	1.3	9.5
Nursing care facilities¹	100.0	71.8	28.2	6.8	2.4	8.7	2.0	8.3
Management, professional, and related	100.0	73.1	26.9	7.2	2.2	7.5	2.2	7.8
Service	100.0	70.4	29.6	6.2	2.8	10.0	1.7	8.9

¹ Data are available beginning with December 2006.

Note: The sum of individual items may not equal totals due to rounding.

Table 15. Employer costs per hour worked for employee compensation and costs as a percent of total compensation: private industry workers, by Census region and selected metropolitan area,¹ March 2017

	Total compensation		Wages and salaries		Total benefits	
	Cost	Percent	Cost	Percent	Cost	Percent
Northeast						
Boston-Worcester-Manchester, MA-NH CSA	\$43.94	100.0	\$30.83	70.2	\$13.11	29.8
New York-Newark-Bridgeport, NY-NJ-CT-PA CSA ..	46.10	100.0	30.48	66.1	15.62	33.9
Philadelphia-Camden-Vineland, PA-NJ-DE-MD CSA	35.79	100.0	24.73	69.1	11.06	30.9
South						
Atlanta-Sandy Springs-Gainesville, GA-AL CSA	34.39	100.0	24.13	70.2	10.26	29.8
Dallas-Fort Worth, TX CSA	30.13	100.0	22.10	73.4	8.02	26.6
Houston-Baytown-Huntsville, TX CSA	35.12	100.0	24.63	70.1	10.49	29.9
Miami-Fort Lauderdale-Pompano Beach, FL MSA ...	28.20	100.0	20.35	72.2	7.85	27.8
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV CSA	38.83	100.0	27.18	70.0	11.66	30.0
Midwest						
Chicago-Naperville-Michigan City, IL-IN-WI CSA	36.29	100.0	25.17	69.4	11.12	30.6
Detroit-Warren-Flint, MI CSA	36.75	100.0	25.31	68.9	11.44	31.1
Minneapolis-St. Paul-St. Cloud, MN-WI CSA	35.42	100.0	25.15	71.0	10.27	29.0
West						
Los Angeles-Long Beach-Riverside, CA CSA	35.70	100.0	25.28	70.8	10.42	29.2
Phoenix-Mesa-Scottsdale, AZ MSA	30.78	100.0	22.37	72.7	8.41	27.3
San Jose-San Francisco-Oakland, CA CSA	53.61	100.0	37.47	69.9	16.13	30.1
Seattle-Tacoma-Olympia, WA CSA	38.76	100.0	27.26	70.3	11.50	29.7

¹ The Consolidated Statistical Areas (CSAs) and Metropolitan Statistical Areas (MSAs) are defined by the Office of Management and Budget (OMB) 2003 area definitions. For more information on the area definitions, visit www.census.gov/programs-surveys/metro-micro.html.

Wage & Salary Survey of Kentucky Cities

2016 Edition



klc.org



INTRODUCTION

February 2016

Kentucky's 418 incorporated cities employ over 25,000 people. Maintaining adequate staffing to perform the important services that cities provide is a real challenge for local officials. Finding and keeping first-rate staff members while holding the line on budget increases is an increasingly difficult task for our mayors, council members and commissioners. The purpose of this study is to assist our cities by providing comparative wage/salary and employee benefits information from around the state.

The data contained in this report serves as a general reference for city officials in the human resources and budgeting areas. Employment and workforce conditions vary widely throughout the state, and final decisions on individual salaries must take into account specific local circumstances.

Electronic copies of this report will be made available to members of the Kentucky League of Cities (KLC) free of charge on the KLC website (klc.org) or by contacting the KLC office. Printed copies of the report may be requested for a fee.

If you have any questions about the wage and benefits information included in this report or if you would like to order an additional copy, please contact a member of the KLC research team at 800.876.4552.

Officials from cities that completed and returned the survey sent to member cities in late 2015 have online access to city-specific wage and benefit data. This is an added benefit for completing the survey. Custom reports may be generated at any time for any of the positions and benefits questions included in the survey. Visit klc.org to access the online database.

The 2016 edition of the Wage and Salary Survey of Kentucky Cities is paid for in part by the following advertisers:

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FORMAT AND METHODOLOGY

The information contained in this report was derived from surveys sent to KLC member cities as of October 30, 2015. Responses were received from 205 cities, including many small cities that reported no employees and no employee benefit policies.

The information is reported statistically both statewide and by population range of city. In earlier reports, classification of city was used for comparison purposes. Previously, city classification was based solely on population. At the time, one-third of all Kentucky cities were not in the appropriate classification based on those population standards. The city classification reform legislation that passed in 2014 eliminated the six classes of cities and created only two classes: first class and home rule class.

Following are the six population ranges – which are the same ranges used in the previous city classification structure – including how many cities are in each range and how many in each completed the survey:

Population Range	Number of Member Cities in Range	Number of Cities Reporting	Percentage Reporting
100,000 or more	2	2	100%
20,000-99,999	16	14	88%
8,000-19,999	32	19	59%
3,000-7,999	55	35	64%
1,000-2,999	98	45	46%
Less than 1,000	166	90	54%
Total:	369	205	56%

FORMAT AND METHODOLOGY

Statistical data for each job position is formatted under the table headings below, one each for statewide and population range:

Population Range	# Reporting	Salary Paid				Maximum
		Minimum	25%	50%	75%	

Population Range – The same population ranges used in the former city classification system.

Reporting – The number of cities reporting for that position.

Minimum – The lowest yearly salary reported for the position.

25% – The salary amount at which one-quarter of those reporting are paid less and three-quarters of those reporting are paid more, also known as the “first quartile.”

50% – The salary amount at which half of those reporting are paid less and half of those reporting are paid more, also known as the “median” or “midpoint.”

75% – The salary amount at which three-quarters of those reporting are paid less and one-quarter of those reporting are paid more, also known as the “third quartile.”

Maximum – The highest yearly salary reported for the position.

The shaded columns – Between the 25% and 75% values (between the first and third quartiles) represents the middle half of those reporting. The difference of the third quartile and the first quartile is known as the “interquartile range” or “midspread.”

The symbol of “-” – Indicates there is insufficient data for statistical calculations.

UTILITIES TABLES

The tables for positions categorized as "utilities" begin on the following page

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UTILITIES DIRECTOR

Directs operation and maintenance of water distribution/treatment system and/or sewage collection/treatment system

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	30	\$33,000	\$49,755	\$58,355	\$75,117	\$120,739

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	1	-	-	\$116,266	-	-
20,000-99,999	4	\$74,829	\$87,723	\$97,969	\$108,123	\$120,739
8,000-19,999	4	\$64,294	\$67,781	\$76,280	\$85,462	\$91,000
3,000-7,999	7	\$47,675	\$53,406	\$55,817	\$60,157	\$75,213
1,000-2,999	8	\$33,000	\$46,009	\$53,144	\$58,902	\$87,400
Less than 1,000	6	\$35,959	\$38,881	\$45,654	\$56,018	\$72,814

WATER PLANT SUPERINTENDENT

Oversees operations of water treatment plant and pump stations

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	31	\$19,500	\$40,904	\$46,613	\$49,504	\$69,846

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	2	\$53,574	-	\$61,710	-	\$69,846
8,000-19,999	7	\$40,706	\$45,877	\$48,516	\$52,271	\$58,635
3,000-7,999	8	\$35,963	\$38,674	\$43,139	\$47,851	\$49,088
1,000-2,999	10	\$33,051	\$41,107	\$44,678	\$49,093	\$67,100
Less than 1,000	4	\$19,500	\$36,855	\$44,200	\$46,289	\$47,876

WATER PLANT OPERATOR I

*Tends machines and observes operations at water treatment plant;
has Class I state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	16	\$20,800	\$24,310	\$25,761	\$32,838	\$57,628

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	2	\$28,267	-	\$42,948	-	\$57,628
8,000-19,999	2	\$24,918	-	\$25,990	-	\$27,061
3,000-7,999	7	\$20,800	\$22,672	\$24,440	\$32,854	\$53,373
1,000-2,999	3	\$24,980	-	\$25,313	-	\$26,208
Less than 1,000	2	\$20,800	-	\$29,120	-	\$37,440

WATER PLANT OPERATOR II

*Tends machines and observes operations at water treatment plant;
has Class II state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	13	\$9,360	\$23,920	\$33,654	\$36,400	\$43,659

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	0	-	-	-	-	-
8,000-19,999	2	\$32,240	-	\$34,320	-	\$36,400
3,000-7,999	5	\$22,214	\$32,500	\$35,110	\$36,046	\$43,659
1,000-2,999	4	\$23,816	\$23,894	\$28,787	\$35,641	\$41,600
Less than 1,000	2	\$9,360	-	\$25,480	-	\$41,600

WATER PLANT OPERATOR III

*Tends machines and observes operations at water treatment plant;
has Class III state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	23	\$14,560	\$25,418	\$31,400	\$34,477	\$51,750

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	0	-	-	-	-	-
8,000-19,999	3	\$35,194	-	\$38,602	-	\$44,187
3,000-7,999	7	\$24,440	\$31,440	\$33,000	\$36,124	\$39,582
1,000-2,999	11	\$16,640	\$23,676	\$28,392	\$31,820	\$51,750
Less than 1,000	2	\$14,560	-	\$19,760	-	\$24,960

WATER PLANT OPERATOR IV

*Tends machines and observes operations at water treatment plant;
has Class IV state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	21	\$24,440	\$36,591	\$39,500	\$43,077	\$54,641

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	3	\$36,591	-	\$42,829	-	\$44,252
8,000-19,999	6	\$37,005	\$38,204	\$41,891	\$44,080	\$54,641
3,000-7,999	8	\$24,440	\$33,659	\$36,744	\$40,337	\$43,077
1,000-2,999	4	\$36,380	\$37,117	\$40,195	\$43,190	\$43,680
Less than 1,000	0	-	-	-	-	-

WATER DISTRIBUTION SYSTEM OPERATOR I

*Conducts maintenance of water distribution system apparatus;
has Class I state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	6	\$25,501	\$27,280	\$28,300	\$35,553	\$49,795

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	2	\$25,501	-	\$31,686	-	\$37,871
8,000-19,999	0	-	-	-	-	-
3,000-7,999	2	\$28,000	-	\$38,898	-	\$49,795
1,000-2,999	0	-	-	-	-	-
Less than 1,000	2	\$27,040	-	\$27,820	-	\$28,600

WATER DISTRIBUTION SYSTEM OPERATOR II

*Conducts maintenance of water distribution system apparatus;
has Class II state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	20	\$11,400	\$29,809	\$35,652	\$40,824	\$45,304

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	3	\$25,820	-	\$28,617	-	\$41,805
8,000-19,999	0	-	-	-	-	-
3,000-7,999	3	\$31,512	-	\$39,396	-	\$42,245
1,000-2,999	10	\$29,026	\$30,571	\$36,897	\$40,029	\$45,304
Less than 1,000	4	\$11,400	\$28,130	\$34,897	\$37,986	\$43,680

WATER DISTRIBUTION SYSTEM OPERATOR III

*Conducts maintenance of water distribution system apparatus;
has Class III state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	9	\$24,960	\$32,562	\$37,000	\$44,085	\$47,216

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	3	\$36,228	-	\$39,875	-	\$45,924
8,000-19,999	1	-	-	\$32,562	-	-
3,000-7,999	2	\$37,000	-	\$40,543	-	\$44,085
1,000-2,999	1	-	-	\$27,830	-	-
Less than 1,000	2	\$24,960	-	\$36,088	-	\$47,216

WATER DISTRIBUTION SYSTEM OPERATOR IV

*Conducts maintenance of water distribution system apparatus;
has Class IV state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	3	\$24,960	-	\$35,000	-	\$37,211

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	0	-	-	-	-	-
8,000-19,999	1	-	-	\$35,000	-	-
3,000-7,999	1	-	-	\$24,960	-	-
1,000-2,999	0	-	-	-	-	-
Less than 1,000	1	-	-	\$37,211	-	-

WASTEWATER PLANT OPERATOR IV

*Tends machines and observes operations at wastewater plant;
has Class IV state certification*

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	9	\$16,868	\$38,000	\$39,000	\$41,731	\$50,044

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	3	\$39,000	-	\$41,731	-	\$50,044
8,000-19,999	2	\$40,872	-	\$43,951	-	\$47,029
3,000-7,999	2	\$28,142	-	\$33,071	-	\$38,000
1,000-2,999	1	-	-	\$38,397	-	-
Less than 1,000	1	-	-	\$16,868	-	-

WATER/WASTEWATER LABORER

Performs semiskilled and skilled labor in a wide variety of water/wastewater duties

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	31	\$9,671	\$22,939	\$28,375	\$32,917	\$44,098

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	1	-	-	\$32,138	-	-
20,000-99,999	1	-	-	\$26,780	-	-
8,000-19,999	5	\$24,502	\$28,375	\$33,696	\$41,246	\$44,098
3,000-7,999	8	\$18,616	\$22,270	\$24,447	\$38,252	\$40,456
1,000-2,999	8	\$9,671	\$18,174	\$29,058	\$29,739	\$33,891
Less than 1,000	8	\$16,640	\$22,100	\$26,496	\$29,547	\$34,923

TELECOMMUNICATIONS SUPERINTENDENT

Oversees the operations of the city's telecommunications system

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	2	\$34,000	-	\$49,261	-	\$64,522

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	0	-	-	-	-	-
8,000-19,999	0	-	-	-	-	-
3,000-7,999	2	\$34,000	-	\$49,261	-	\$64,522
1,000-2,999	0	-	-	-	-	-
Less than 1,000	0	-	-	-	-	-

UTILITY OPERATOR

Operates and/or maintains utility machinery and equipment

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	6	\$28,858	\$29,770	\$32,895	\$37,101	\$56,160

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	1	-	-	\$38,111	-	-
20,000-99,999	0	-	-	-	-	-
8,000-19,999	2	\$34,070	-	\$45,115	-	\$56,160
3,000-7,999	1	-	-	\$28,858	-	-
1,000-2,999	1	-	-	\$31,720	-	-
Less than 1,000	1	-	-	\$29,120	-	-

UTILITY MAINTENANCE WORKER

Performs a variety of semiskilled maintenance work on utility systems

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	15	\$12,896	\$29,055	\$35,360	\$41,192	\$43,680

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	4	\$23,108	\$25,757	\$33,712	\$41,377	\$43,156
8,000-19,999	2	\$35,360	-	\$39,520	-	\$43,680
3,000-7,999	4	\$32,469	\$35,308	\$37,991	\$40,196	\$41,600
1,000-2,999	3	\$24,960	-	\$31,470	-	\$34,278
Less than 1,000	2	\$12,896	-	\$27,898	-	\$42,900

UTILITY CLERK

Performs routine clerical work; collects and distributes materials and products to appropriate destinations; provides support service, data entry and simple bookkeeping

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	35	\$18,928	\$26,592	\$31,006	\$34,029	\$53,694

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	1	-	-	\$40,003	-	-
20,000-99,999	4	\$31,911	\$32,178	\$34,979	\$39,519	\$45,006
8,000-19,999	5	\$27,040	\$31,057	\$34,237	\$38,184	\$53,694
3,000-7,999	5	\$24,148	\$28,350	\$29,120	\$34,590	\$35,000
1,000-2,999	15	\$22,360	\$24,863	\$28,309	\$31,527	\$33,404
Less than 1,000	5	\$18,928	\$23,462	\$26,000	\$28,184	\$46,332

METER READER

Reads and repairs water, electric or other utility meters

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	27	\$14,976	\$22,752	\$27,061	\$29,016	\$40,770

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	0	-	-	-	-	-
20,000-99,999	4	\$27,581	\$28,579	\$33,183	\$38,282	\$40,770
8,000-19,999	6	\$24,565	\$27,144	\$27,662	\$28,808	\$36,275
3,000-7,999	6	\$21,985	\$24,009	\$27,435	\$34,788	\$38,688
1,000-2,999	8	\$14,976	\$18,611	\$23,131	\$26,156	\$28,461
Less than 1,000	3	\$16,640	-	\$18,720	-	\$27,800

UTILITY CREW FOREMAN

Provides first-line supervision of a small unit of utility workers on an assigned shift

		Salary Paid				
Statewide	# Reporting	Minimum	25%	50%	75%	Maximum
Kentucky	11	\$18,720	\$40,551	\$46,236	\$50,327	\$68,868

		Salary Paid				
Population Range	# Reporting	Minimum	25%	50%	75%	Maximum
100,000 or more	1	-	-	\$42,281	-	-
20,000-99,999	2	\$46,236	-	\$49,151	-	\$52,065
8,000-19,999	3	\$48,589	-	\$66,560	-	\$68,868
3,000-7,999	2	\$33,763	-	\$40,043	-	\$46,322
1,000-2,999	3	\$18,720	-	\$40,061	-	\$41,040
Less than 1,000	0	-	-	-	-	-

HEALTH INSURANCE: PLAN TYPES

*Types of health insurance plan(s) offered, if any, to full-time employees:
traditional plan, high-deductible health plan or both*

Statewide	# Reporting	Insurance Provided: Type(s)		No Insurance
		Traditional	High-Deductible	
Kentucky	154	75%	17%	16%

Population Range	# Reporting	Insurance Provided: Type(s)		No Insurance
		Traditional	High-Deductible	
100,000 or more	1	100%	100%	0%
20,000-99,999	14	93%	43%	0%
8,000-19,999	19	79%	32%	0%
3,000-7,999	35	77%	26%	6%
1,000-2,999	39	87%	10%	5%
Less than 1,000	46	57%	0%	43%

NOTE: Only cities with full-time employees are included

HEALTH INSURANCE: ACCOUNTS

Types of insurance accounts that are available, if any, to full-time employees: health savings (HSA), health reimbursement (HRA) or flexible spending (FSA)

Statewide	# Reporting	Insurance Provided: Account(s)			No Accounts
		HSA	HRA	FSA	
Kentucky	131	17%	30%	19%	53%

Population Range	# Reporting	Insurance Provided: Account(s)			No Accounts
		HSA	HRA	FSA	
100,000 or more	1	100%	0%	100%	0%
20,000-99,999	14	43%	64%	79%	7%
8,000-19,999	19	21%	37%	37%	26%
3,000-7,999	33	15%	36%	9%	55%
1,000-2,999	38	8%	21%	5%	63%
Less than 1,000	26	12%	12%	4%	85%

NOTE: Only cities providing insurance plans are included

HEALTH INSURANCE: PREMIUM COST

Monthly premiums for full-time city employees enrolled in the city's health insurance program

		Median Monthly Premium			
Statewide	# Reporting	Employee	Employee/Child	Employee/Spouse	Family
Kentucky	126	\$511	\$858	\$1,037	\$1,474

		Median Monthly Premium			
Population Range	# Reporting	Employee	Employee/Child	Employee/Spouse	Family
100,000 or more	1	\$469	\$798	\$854	\$995
20,000-99,999	14	\$434	\$830	\$898	\$1,172
8,000-19,999	19	\$472	\$821	\$973	\$1,385
3,000-7,999	32	\$512	\$840	\$1,074	\$1,570
1,000-2,999	35	\$515	\$949	\$1,150	\$1,641
Less than 1,000	25	\$625	\$1,007	\$1,441	\$1,934

HEALTH INSURANCE: SHARE PAID

Percentage paid by the city for full-time employees enrolled in the city's health insurance program

		Median Monthly Premium			
Statewide	# Reporting	Employee	Employee/Child	Employee/Spouse	Family
Kentucky	126	100%	85%	87%	86%

		Median Monthly Premium			
Population Range	# Reporting	Employee	Employee/Child	Employee/Spouse	Family
100,000 or more	1	92%	57%	53%	56%
20,000-99,999	14	96%	80%	82%	84%
8,000-19,999	19	100%	89%	90%	89%
3,000-7,999	32	100%	91%	90%	92%
1,000-2,999	35	100%	75%	75%	75%
Less than 1,000	25	100%	87%	100%	96%