IN THE TENNESSEE PUBLIC UTILITY COMMISSION AT NASHVILLE, TENNESSEE

IN RE:)	
)	
JOINT PETITION OF TENNESSEE)	
WASTEWATER SYSTEMS, INC. AND	DOCKET NO. 20-00009	
TPUC STAFF (AS A PARTY) TO)	
INCREASE RATES AND CHARGES)	

PRE-FILED DIRECT TESTIMONY

OF

KEVIN MCCLENATHAN

1	O.	Please state	vour name,	position	and	business	address.
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- 2 A. My name is Kevin McClenathan. I am a Utility Rate Specialist for the Tennessee
- Public Utility Commission. My business address is 502 Deaderick Street, Fourth
- 4 Floor, Nashville, Tennessee 37243.
- 5 Q. Please provide a summary of your educational background and professional
- 6 experience.
- 7 A. I have a B.S. in Accounting for The University of Tennessee Knoxville. I started
- 8 with TPUC in January 2019. In my time with the Commission, I have worked on
- 9 various cases and audits for natural gas, water and wastewater public utilities.
- 10 Q. What is the purpose of your testimony in this proceeding?
- 11 A. The purpose of my testimony is to present the forecast of the cost of service and
- related revenue deficiency for Tennessee Wastewater Systems, Inc. for the Attrition
- Period ending December 31, 2020, including the projected operating revenues,
- expenses and taxes. The ratemaking calculation are presented in the TPUC Party
- 15 Staff Exhibit, Schedules and Workpapers attached hereto.
- As reflected on TPUC Party Staff Exhibit, Schedule 2, the forecast of operating
- revenues, expenses and taxes resulted in a net operating loss of \$105,550 for the
- 18 Attrition Period.
- 19 Q. Please explain the forecast of Operating Revenues at Present Rates.
- 20 A. Schedule 3, Lines 1-3 Wastewater Revenue Residential Customers, Commercial
- Customers and Sewer Access Fees \$2,148,533: This amount represents the
- forecasted Wastewater Revenue from Residential Customers, Commercial Customers

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1 and Sewer Access Fees the Company should realize during the Attrition Period, absent 2 any rate relief. 3 To forecast water revenue, I first examined the Residential Customer billing 4 information in the Test Period and performed a revenue price-out, as reflected on 5 Workpaper 2. Based on the increased number of customers from September 2018 to 6 September 2019, I determined that a 10% growth rate is reasonable for Residential 7 Customers. Using an 18-month growth adjustment period and the residential growth 8 factor of 10%, I calculated an Attrition Period figure of \$1,115,892. This is a \$59,773 increase from the Test Period. 9 10 Similar to the revenues from Residential Customers, a revenue price-out was performed 11 using the Test Period billing information for Commercial Customers, as shown on Workpaper 3. Based on the customer growth from September 2018 to September 2019, 12 13 I determined that a 5% growth rate is reasonable for Commercial Customers. Using the same 18-month growth adjustment period and the commercial growth factor of 5%, I 14 calculated an Attrition Period figure of \$849,164. This is an \$87,641 increase from the 15 16 Test Period. In determining the adjustment for Sewer Access, I took a 3-year average of the revenue 17 from the fees, as shown on Workpaper 1. This resulted in an adjustment of \$10,354 to 18 the Test Period, making the Attrition Period figure \$183,477. 19 20 Schedule 3, Lines 9 and 11 – Late Payment and Miscellaneous Revenue - \$18,326. As shown on Workpaper 1, late payment/forfeited discount revenue of \$15,006 was 21 computed by taking the three-year average for the period 2016-2018; and I priced-out

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- miscellaneous revenue of \$3,320 for disconnects, reconnects and returned check charges as reflected on Workpaper 4.
- 3 Q. Please explain the individual components of the Expense Forecast.
- A. Schedule 4, Lines 1, 4 and 5 Salary & Wages Expense Employees, Worker's

 Compensation Expense and IRA Contribution Expense \$656,289: This amount

 represents the forecast of the Salary & Wages Expense for Employees, combined with

 the corresponding Compensation Expense and IRA Contribution Expense. To arrive at

 this amount, I first performed a price-out of these three expenses.
 - In order to arrive at the Attrition Period figure for the Salary & Wages Expense for Employees, I annualized the total Employee compensation from the Test Period and grew that number by a 3% annual cost of living increase. In addition, the Company expressed the need for a new employee. To support that need, a vacant entry-level position has been included in this calculation. This brings the Attrition Period figure for Salary & Wages Expense for Employees to \$623,560, as shown on Workpaper 6.
 - The Worker's Compensation Expense and IRA Contribution Expense were calculated using percentages from the June 2019 Worker's Compensation Report and the TWSI payroll, respectively. These percentages were applied to the 2020 Pro Forma Base Pay for Employees. This resulted in an Attrition Period figure of \$18,864 for Worker's Compensation Expense and \$13,865 for IRA Contribution Expense, as shown on Workpaper 6.
 - The sum of these three expenses totals \$656,289.

Schedule 4, Line 10 – Materials & Supplies Expense - \$260,088: This amount represents the forecast of Materials & Supplies Expense the Company should incur

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during the Attrition Period. To arrive at this amount, I first performed an analysis of Materials & Supplies recorded in the Company's escrow account and operating expense account. Through the Test Period, the Company recorded certain, routine maintenance expenses to its escrow account, but starting January 2019, such routine expenses were recorded solely to its operating accounts, consistent with the new rule for escrow accounting which became effective in December 2018, see TPUC Rule 1220-4-13-.07(7). Materials & Supplies of \$314,993 charged to escrow and operating expense for the adjusted test period of July 1, 2018 through June 30, 2019 were examined, and nonroutine, nonrecurring expenses and inventory adjustments of \$54,905 were removed to arrive at the Attrition Period forecast.

Schedule 5, Line 5 – Lawn Maintenance - \$56,125: This amount represents the forecast of Lawn Maintenance Expense the Company should incur during the Attrition Period. To arrive at this figure, I doubled the Test Period expense to arrive at the Attrition Period amount of \$56,125, as shown on Workpaper 7. The mowing expense was significantly increased due to conversations with management regarding the need for better maintenance of the Company's drip fields and system grounds.

Schedule 5, Line 7 – Management Fees - \$231,020: This amount represents the forecasted Management Fees the Company should incur during the Attrition Period. To arrive at this amount, I first performed a price-out of this expense, including FICA. In order to arrive at the Attrition Period figure for the Management Fees, I annualized the total fees from the Test Period and grew that number by a 3% annual cost of living increase. This resulted in an Attrition Period figure of \$231,020, as shown on Workpaper 7. Due to changes in management personnel and employee levels from 2018

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to 2019, this is an overall decrease in the Company's Management Fees from the Test Period amount.

Schedule 5, Line 8 – IT Support - \$59,068: This amount represents the forecasted IT Support Expense the Company should incur during the Attrition Period. To arrive at this amount, I removed nonrecurring expenses of \$14,434 and prepaids of \$2,216 from the Test Period expense of \$74,238, and then grew the adjusted amount of \$57,588 by the compounded GDP Deflator of 2.57% to arrive at the Attrition Period forecast.

Schedule 6, Line 1 – Rent - \$66,000: This amount represents the forecasted Rent Expense the Company should incur during the Attrition Period. To arrive at this amount, I removed an annual lease payment of \$6,945 for land from Test Period Rent of \$60,945 to arrive at an adjusted amount of \$54,000, which is attributable to the combined monthly lease payments for its Middle and East Tennessee offices during the Test Period. The lease on land was removed for ratemaking purposes because the Company is leasing the land to be used as a potential site of a future wastewater treatment facility, but the land is not currently used to provide wastewater treatment services. The adjusted Test Period rent of \$54,000 was increased by \$12,000 to arrive at the Attrition Period forecast because the Company moved its East Tennessee office to a new location in 2019, which increased the monthly lease amount for the East Tennessee office by \$1,000 per month.

Schedule 6, Line 7 – Depreciation Expense - \$112,065: The Company's depreciable assets consist of vehicles and equipment purchased by TWSI and depreciated on a straight-line basis over a five-year estimated economic life. The Company's utility treatment plant and collection systems are contributed by developers; thus, depreciation

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expense related to these contributed capital assets is not allowed for ratemaking purposes pursuant to the Commission's precedents and regulatory accounting rules set forth in the Uniform System of Accounts adopted by the Commission. Depreciation was computed by applying existing straight-line depreciation rates to existing depreciable assets through the Attrition Period, which resulted in annual depreciation of \$100,612. Additional Attrition Period depreciation of \$11,453 was computed by applying a five-year, straight-line depreciation rate of 20% to the average, forecasted additions of depreciable assets of \$57,266, which was determined by averaging the annual additions of depreciable assets for the period 2016 through 2018.

Items Adjusted Using a Two-Year Historical Average: The following expenses were adjusted using a two-year historical average methodology to determine the Attrition Period amount: Professional Services of \$17,593 (Workpaper 7, Line 1); Maintenance Expense of \$7,203 (Workpaper 7, Line 3); Registration Renewal of \$1,026 (Workpaper 8, Line 2); Equipment Maintenance of \$19,731 (Workpaper 9, Line 2); Equipment Rental of \$13,513 (Workpaper 9, Line 3); Small Equipment Purchases of \$4,954 (Workpaper 9, Line 4); and Other Miscellaneous Expenses of \$1,012 (Workpaper 9, Line 12). Review of the historical trends in these expense items indicated that a two-year historical average is appropriate to forecast expenses for the Attrition Period.

Items Adjusted Using a GDP Deflator: The following expenses were adjusted using a GDP Deflator methodology to determine the Attrition Period amount: Life Insurance Expense of \$2,145 (Workpaper 5, Line 3); Telemetry Monitoring Expense of \$177,643 (Workpaper 5, Line 8); Testing Expense of \$8,136 (Workpaper 7, Line 2); Service

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Expense of \$1,544 (Workpaper 7, Line 4); One-Call Expense of 5,981 (Workpaper 7, Line 6); Fuel Expense of \$67,719 (Workpaper 8, Line 3); Vehicle Maintenance of \$26,622 (Workpaper 8, Line 4); Insurance Expense of \$39,143 (Workpaper 8, Line 5), Licenses & Permits Expense of \$44,358 (Workpaper 8, Line 10); Telephone Expense of \$10,735 (Workpaper 9, Line 5); Office Supplies Expense of \$1,060 (Workpaper 9, Line 6); and Software Licenses Expense of \$23,727 (Workpaper 9, Line 8). For each of these expense items, a compounded GDP Deflator of 2.57% was applied to the Test Period amount to arrive at the Attrition Period forecast, which was computed by compounding the annual growth in the GDP Deflator (as determined for the period from the 3rd Quarter 2018 to the 3rd Quarter 2019) through the midpoint of the Attrition Period. I determined that this general inflation index is appropriate to forecast these expense items.

Items Adjusted Using an Inflation Factor: The following expenses were adjusted

Items Adjusted Using an Inflation Factor: The following expenses were adjusted using an Inflation Factor methodology to determine the Attrition Period amount: Purchased Power Expense of \$177,021 (Workpaper 5, Line 7); and Postage Expense of \$10,958 (Workpaper 9, Line 7). For these expense items, a compounded Inflation Factor of 10.25% was applied to the Test Period amount to arrive at the Attrition Period forecast. The Inflation Factor was computed by summing one-half of the compounded annual residential customer growth of 10.0% through the midpoint of the Attrition Period and the compounded GDP Deflator of 2.57%, described above. I determined that an inflation factor that considered both general inflation and customer growth is appropriate to forecast these expense items.

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Items Eliminated: The following Test Period expenses were eliminated from the determination of the revenue deficiency in the Attrition Period because they are recovered by the Company through surcharges to customers which were not examined in this docket: Purchased Water Treatment Expense of \$116,597 (Workpaper 5, Line 6); Bioxide Expense of \$3,680 (Workpaper 5, Line 9); Letter of Credit Fees of \$10,500 (Workpaper 8, Line 8); and Franchise Fees of \$3,383 (Workpaper 9, Line 10.)

The following Test Period expenses were eliminated from the determination of the revenue deficiency because they were considered disallowable expenses for ratemaking purposes in this docket: Membership Dues of \$40 (Workpaper 9, line 9), Lodging Expense of \$155 (Workpaper 11, Line 1); Meals & Entertainment of \$6,237 (Workpaper 11, Line 2); and Non-Utility Construction Expense of \$1,200 (Workpaper 10, Line 6), as well as adjustments certain other adjustments for disallowable and nonrecurring costs as reflected on Workpaper 11.

14 Q. Please explain the calculation of Taxes.

A. Schedule 8, Line 6 - Taxes Other Than Income Tax Expense - \$181,480: This amount represents the Other Tax Expense for the Attrition Period related to Payroll Tax of \$52,977, Franchise Tax of \$60,247, Property Tax of \$59,068 and Utility Commission Fee of \$9,188. These amounts were determined in accordance with statutory tax rates, rules and regulations as shown on Workpapers 6 and 10.

Schedule 11, Lines 10 and 11 – Income Taxes - \$83,615. This amount represents a provision for Income Tax Expense for the Attrition Period related to Tennessee Excise Tax of \$20,796 and Federal Income Tax of \$62,819. As reflected in Party Staff Exhibit, Schedules 10 and 11, these amounts were determined in accordance with relevant

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- statutory tax rates, rules and regulations applied to forecasted Attrition Period taxable
- income.
- 3 Q. Does this conclude your testimony?
- 4 A. Yes it does.

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Tennessee Wastewater Systems, Inc. Results of Operations - Operating Margin Method For the 12 Months Ending December 31, 2020

Line		
No1	Total Operating Expenses	TWSI
2	Fair Operating Margin	10.00% B/
3	Required Operating Income	227,241
4	Less Operating Income at Current Rates	(105,550)_A/
5	Operating Income Deficiency/(Surplus)	332,791
6	Gross Revenue Conversion Factor	1.34979_C/
7	Revenue Deficiency/(Surplus)	449,198

A/ Schedule 2.
B/ Proposed Operating Margin.
C/ Schedule 12.

Tennessee Wastewater Systems, Inc. Income Statement at Current Rates For the 12 Months Ending December 31, 2020

Line No.	= :	Test Period	2	Adjustments	Attrition Period
	Operating Revenues:				
1	Wastewater Revenues	1,990,765		157,769	2,148,533
2	Other Revenues	232,363		(214,038)	18,326
3	Total Operating Revenue	2,223,128	A	(56,269)	2,166,859 A/
	Expenses:				
4	Operating Expenses	1,320,041	B/	(46,856)	1,273,186 B/
5	Contractual Services	476,667	C/	(89,998)	386,670 C/
6	Administrative & General Expenses	396,584	D/	(23,668)	372,916 D/
7	Miscellaneous Expenses	77,433	E/	8,258	85,691 E/
8	Taxes Other Than Income Expenses	59,155	F/	122,325	181,480 F/
9	Non-Utility Expenses	25,705	G/	(19,106)	6,600 G/
10	State Income Tax Expense	ij		(8,489)	(8,489) H/
11	Federal Income Tax Expense	- X	H/	(25,644)	(25,644) H/
12	Total Expenses	2,355,586		(83,177)	2,272,408
13	Net Operating Income	(132,458)		26,908	(105,550)

A/ Schedule 3.
B/ Schedule 4.
C/ Schedule 5.
D/ Schedule 6.
E/ Schedule 7.
F/ Schedule 8.
G/ Schedule 9.
H/ Schedule 10.

Tennessee Wastewater Systems, Inc.

Revenues
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
1	Residential	1,056,119	59,773	1,115,892
2	Commercial	761,523	87,641	849,164
3	Sewer Access Fees	173,123	10,354	183,477
4	Operations & Maintenance	363	(363)	57
5	Billing & Collecting	(161)	161	*
6	Bonding	4,182	(4,182)	*
7	Franchise Income	3,390	(3,390)	*
8	Bioxide	-	=	~
9	Late Payment	14,651	354	15,006
10	Developer Subsidy	206,250	(206,250)	23
11	Miscellaneous	3,689	(369)	3,320
12	Total Revenues	2,223,128	\$ (56,269)	2,166,859

SOURCE: Commission Staff Workpaper 1:

Tennessee Wastewater Systems, Inc.
Operating & Maintenance Expense
For the 12 Months Ending December 31, 2020

Line No.	 Salary & Wages Expense - Employees	Test Period 642,157	Adjustments (18,597)	Attrition Amount 623,560
2	Salary & Wages Expense - Officers			8
3	Life Insurance Expense	2,091	54	2,145
4	Worker's Compensation Expense	16,196	2,668	18,864
5	IRA Contribution Expense	14,611	(746)	13,865
6	Purchased Wastewater Treatment Expense	116,597	(116,597)	5.
7	Purchased Power Expense	160,563	16,458	177,021
8	Telemetry Monitoring Expense	173,192	4,451	177,643
9	Bioxide Expense	3,680	(3,680)	-
10	Materials & Supplies Expense	190,953	69,135	260,088
11	Total Operation & Maintenance Expense	1,320,041	(46,856)	1,273,186

SOURCE: Commission Staff Workpaper 5.

Tennessee Wastewater Systems, Inc.
Contractual Services Expense
For the 12 Months Ending December 31, 2020

Line No.	 Professional	Test Period 25,594	Adjustments (8,001)	Attrition Period 17,593
2	Testing	7,932	204	8,136
3	Maintenance	12,247	(5,044)	7,203
4	Service	1,505	39	1,544
5	Lawn Maintenance	28,063	28,063	56,125
6	One-Call	5,831	150	5,981
7	Management Fees	321,257	(90,237)	231,020
8	IT Support	74,238	(15,170)	59,068
9	Total Contractual Services Expense	476,667	(89,998)	386,670

SOURCE: Commission Staff Workpaper 7.

Tennessee Wastewater Systems, Inc.
Administrative & General Expense
For the 12 Months Ending December 31, 2020

Line No.	Rent	Test Period 60,945	Adjustments 5,055	Attrition Period 66,000
2	Registration Renewal	618	409	1,026
3	Fuel Expense	66,023	1,697	67,719
4	Vehicle Maintenance	25,955	667	26,622
5	Insurance	38,162	981	39,143
6	Regulatory Commission Expense	8,279	(8,279)	π.
7	Depreciation Expense	124,530	(12,465)	112,065
8	Letter of Credit Fees	10,500	(10,500)	(2)
9	Interest Expense	10,451	(3,004)	7,447
10	Licenses & Permits	43,246	1,111	44,358
11	Uncollectible Expense	7,875	661_	8,536
12	Total Administrative & General Expense	396,584	(23,668)	372,916

SOURCE: Commission Staff Workpaper 8.

Tennessee Wastewater Systems, Inc.

Miscellaneous Expense For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
1	Website & Internet Hosting	726	(726)	
2	Equipment Maintenance	7,177	12,554	19,731
3	Equipment Rental	19,406	(5,893)	13,513
4	Small Equipment Purchases	330	4,625	4,954
5	Telephone	10,466	269	10,735
6	Office Supplies	1,034	27	1,060
7	Postage	9,939	1,019	10,958
8	Software Licenses	23,133	595	23,727
9	Membership Dues	40	(40)	(2
10	Franchise Fees	3,383	(3,383)	29
11	Billing Costs	**	₩	~
12	Other	1,800	(788)	1,012
13	Total Miscellaneous Expense	77,433	8,258	85,691

SOURCE: Commission Staff Workpaper 9.

Tennessee Wastewater Systems, Inc. Taxes Other Than Income Tax Expense

For the 12 Months Ending December 31, 2020

Line No. 1	– Payroll Tax	Test Period 49,703	e A/	Adjustments 3,274	Attrition Period 52,977 B/
2	Franchise Tax	58,000	A/	2,247	60,247 C/
3	Gross Receipts Tax	-	A/	*	- D/
4	Property Tax	59,155	A/	(87)	59,068 E/
5	Utility Commission Fee	8,280_	A/	908	9,188_F/
6	Total Taxes Other Than Income Taxes	175,138		6,342	181,480

A/ Profit and Loss January 2018 through December 2018.
B/ Per Commission Staff Workpaper 6 (Salary and Wage Priceout).

C/ Commission Staff Workpaper 10.

D/ 2020 Intrastate Revenues less 5,000* .03 less franchise tax, less excise tax. E/ Commission Staff Workpaper 10. F/ 2020 Revenues less 5,000 / 1000 *4.25

Tennessee Wastewater Systems, Inc.

Non-Utility Expense For the 12 Months Ending December 31, 2020

Line No.	Lodging	Test Period 155	Adjustments (155)	Attrition Period
2	Meals & Entertainment	6,237	(6,237)	(表)
3	Dues & Subscriptions	2,580	(1,070)	, 1,510
4	Banking & NSF Fees	8,287	(4,606)	3,681
5	Miscellaneous	7,247	(5,838)	1,409
6	Construction	1,200	(1,200)	
7	Total Non-Utility Expense	25,705	(19,106)	6,600

SOURCE: Commission Staff Workpaper 11.

Tennessee Wastewater Systems, Inc. Income Tax Expense at Current Rates For the 12 Months Ending December 31, 2020

Line No.	Revenues	Tax Rate	Attrition Period 2,166,859 A/
	Operating Expenses:		
2	Operating Expenses		1,273,186 A/
3	Contractual Services		386,670 A/
4	Administrative & General Expenses		372,916 A/
5	Miscellaneous Expenses		85,691 A/
6	Taxes Other Than Income Expense		181,480 A/
7	Non-Utility Expenses		6,600_A/
8	Total Operating Expenses		2,306,542
9	Income Before Tennessee Excise and Federal Income Tax Expense		(139,683)
10	Tennessee Excise Tax	6.50%	(9,079)
11	Income Before Federal Income Tax Expense		(130,604)
12 13 14	Tennessee Excise Tax Calculation: Net Income Before Income Taxes Excise Tax Rate Excise Tax Expense		(130,604) 0.0650 (8,489)
15 16 17 18 19	Federal Income Tax Calculation: Net Income Before Income Taxes State Excise Tax Expense Net Income Before Federal Income Tax FIT Rate Federal Income Tax Expense	21.00%	(130,604) (8,489) (122,114) 21.00% (25,644)

A/ Schedule 2.

Tennessee Wastewater Systems, Inc. Income Statement at Proposed Rates For the 12 Months Ending December 31, 2020

Line No.		Current Rates	Rate Increase	Proposed Rates
-	Operating Revenues:			
1	Wastewater Revenues	2,148,533 A	V 449,198	B/ 2,597,731
2	Other Revenues	18,326 A	V 3,137	C/ 21,463
3	Total Operating Revenue	2,166,859	452,336	2,619,194
	Expenses:			
4	Operating Expenses	1,273,186 A	V :==	1,273,186
5	Contractual Services	386,670 A	V	386,670
6	Administrative & General Expenses	372,916 A	V 1,797	D/ 374,713
7	Miscellaneous Expenses	85,691 A	V -	85,691
8	Taxes Other Than Income Expenses	181,480 A	V :==	181,480
9	Non-Utility Expenses	6,600 A	V	6,600
10	State Income Tax Expense	(8,489) A	J 29,285	E/ 20,796
11	Federal Income Tax Expense	(25,644) A	88,463	F/ <u>62,819</u>
12	Total Expenses	2,272,408	119,545	2,391,954
13	Net Operating Income	(105,550)	332,790	227,241 B/

A/ Schedule 2.

B/ Schedule 1.

C/ Schedule 1, Line 7 x Schedule 12, Line 2.
D/ Schedule 1, Line 7 x Schedule 12, Line 4.
E/ Schedule 1, Line 7 x Schedule 12, Line 6.
F/ Schedule 1, Line 7 x Schedule 12, Line 8.

Tennessee Wastewater Systems, Inc.
Revenue Conversion Factor
For the 12 Months Ending December 31, 2020

Line No		Amount	Balance
1	Operating Revenues	Allount	1.000000
2	Add: Forfeited Discounts	0.006984 A/	0.006984
3	Balance		1.006984
4	Uncollectible Expense Ratio	0.003973 B/	0.004001
5	Balance		1.002984
6	State Excise Tax	0.065000 C/	0.065194
7	Balance		0.937790
8	Federal Income Tax	0.210000 D/	0.196936
9	Balance		0.740854
10	Revenue Conversion Factor (Line 1 / Line 9)		1.349793

A/	Forfeited Discounts Residential & Commercial &Sewer Access Fees Forfeited Discount Ratio	15,006 2,148,533 0.006984	Schedule 3. Schedule 3.
B/	Bad Debt Expense Residential & Commercial &Sewer Access Fees Uncollectible Expense Ratio	8,536 2,148,533 0.003973	Schedule 6. Schedule 3.

C/ Statutory State Excise Tax Rate of 6.50%.

D/ Statutory Federal Income Tax Rate of 21%.

Tennessee Wastewater Systems, Inc.

Rate Design For the 12 Months Ending December 31, 2020

Residential Rates: Rate Class 1 28,528 34.02 10,13 970,535 288,992 41.25 6.50 1,176,795 185,4	8.15%
Rate Class 2 424 34,02 10.13 14,424 4,295 41.25 6.50 17,490 2,7	8.15%
Rate Class 5 996 30.71 8.43 30,587 8,396 37,35 5,00 37,201 4,90 Rate Class 6 1,894 30,71 8.43 58,165 15,966 37,35 5.00 70,741 9,4	8 20% 8 20%
Rate Class 9 excl. TC charge 2,398 17.59 6.35 42,181 15,227 20.94 3.00 50,214 7.11	
Total 34,240 1,115,892 332,877 1,352,440 209,83	
Commercial Without Food Rates:	
Tier 1 (0 - 300 GPD) 357 80.40 21,75 28,720 7,769 97.75 13.05 34,917 4,60	8.47%
Tier 2.1 (301 - 400 GPD) 0 96.43 26.17 - 117.25 15.80 - 1 Tier 2.2 (401 - 500 GPD) 52 112.46 30.59 5.808 1.580 136.75 18.55 7.062 98	8.52%
Tier 2.2 (401 - 500 GPD) 52 112,46 30.59 5,808 1,580 136.75 18,55 7,062 99 Tier 2.3 (501 - 600 GPD) 13 128,49 35.01 1,659 452 156,25 21,30 2,017 21	8.56% 8.59%
Tier 2.4 (601 - 700 GPD) 3 144.52 39.43 466 127 175.75 24.05 567	8.62%
Tier 2.5 (701 - 800 GPD) 15 160.55 43.85 2,418 661 195.25 26.80 2,941 40 Tier 2.6 (801 - 900 GPD) 0 176.59 48.26 - 214.75 29.55 -	8 64%
Tier 2.6 (801 - 900 GPD) 0 176,59 48,26 - 214,75 29,55 Tier 2.7 (901 - 1,000 GPD) 29 192,62 52.68 5,596 1,530 234,25 32,30 6,805 90	8.65% 8.66%
Tier 3.1 (1,001 - 2000 GPD) 22 316,43 86.82 6,809 1,868 388,40 49,15 8,358 1,08	8.51%
Tier 3.2 (2,001 - 3,000 GPD) 13 440.28 120.92 5,685 1,561 543.40 66.00 7,016 86 Tier 3.3 (3,001 - 4,000 GPD) 8 564.13 155.02 4,249 1,168 698.40 82.85 5,260 66	8.59%
Tier 3,3 (3,001 - 4,000 GPD) 8 564,13 155,02 4,249 1,168 698,40 82.85 5,260 62 Tier 3,4 (4,001 - 5,000 GPD) 2 687,98 189,12 1,480 407 853,40 99,70 1,836 2	8.64% 8.66%
Tier 3.5 (5,001 - 6,000 GPD) 0 811.83 223.22 - 1,008.40 116.55 -	8.69%
Tier 3.6 (6,001 - 7,000 GPD) 0 935,68 257,32 - 1,163,40 133,40	8.70%
Tier 3.7 (7,001 - 8,000 GPD) 0 1,059,53 291.42 = 1,318,40 150,25 = - Tier 3.8 (8,001 - 9,000 GPD) 0 1,183,38 325.52 = 1,473.40 167,10 = -	8.71% 8.72%
Tier 3.9 (9,001 - 10,000 GPD) 26 1,307.23 359.62 33,756 9,286 1,628.40 183.95 42,049 4,78	8.73%
Contract 25,000 GPD 13 3,164,98 871.12 40,864 11,247 3,953.40 436.70 51,043 5,63 Total 552 137,509 37,657 169,872 20,45	8.77%
Commercial With Food Rates:	
Tier 1 (0 - 300 GPD) 85 107.15 29.00 9,108 2,465 130.30 17.40 11,075 1,47	8.48%
Tier 2.1 (301 - 400 GPD) 17 126.43 34.22 2,176 589 154.05 20.30 2,652 34	8.53%
Tier 2.2 (401 - 500 GPD) 26 145.71 39.44 3,763 1,018 177.80 23.20 4,591 59 Tier 2.3 (501 - 600 GPD) 0 164.99 44.66 201.55 26.10 -	8,56% 8,59%
Tier 2.4 (601 - 700 GPD) 1 184.27 49.88 198 54 225.30 29.00 242 3	8.61%
Tier 2.5 (701 - 800 GPD) 28 203.55 55.10 5,694 1,541 249.05 31.90 6,967 89	8,62%
Tier 2,6 (801 - 900 GPD) 5 222.83 60.32 1,199 325 272.80 34.80 1,468 18 Tier 2.7 (901 - 1,000 GPD) 0 242.11 65.54 - 296.55 37.70	8,63% 8,65%
Tier 3.1 (1,001 - 2000 GPD) 36 393.82 107.18 13,983 3,805 484.75 58,95 17,211 2,09	8.52%
Tier 3.2 (2,001 - 3,000 GPD) 26 545.53 148.82 14,087 3,843 673.90 80.20 17,402 2,07	8.61%
Tier 3.3 (3,001 - 4,000 GPD) 2 697.24 190.46 1,500 410 863.05 101.45 1,857 21 Tier 3.4 (4,001 - 5,000 GPD) 13 849.02 232.10 10,962 2,997 1,052.20 122.70 13,585 1,58	8.65% 8.67%
Tier 3.5 (5,001 - 6,000 GPD) 13 1,000.80 273.74 12,921 3,534 1,241.35 143.95 16,027 1,85	8.69%
Tier 3.6 (6,001 - 7,000 GPD) 0 1,152.58 315.38 - 1,430.50 165.20 -	8.70%
Tier 3.7 (7,001 - 8,000 GPD) 0 1,304.36 357.02 - 1,619.65 186.45 Tier 3.8 (8,001 - 9,000 GPD) 39 1,456.14 398.66 56,401 15,441 1,808.80 207.70 70,061 8,04	8.71% 8.72%
Tier 3,9 (9,001 - 10,000 GPD) 13 1,607,92 440.30 20,760 5,685 1,997.95 228,95 25,796 2,95	8.72%
Contract 25,000 GPD 13 3,884.62 1,064.90 50,155 13,749 4,835.20 547.70 62,428 7,07 Total 316 202,908 55,457 251,363 29,43	8.76%
Total 316 202,908 55,457 251,363 29,43	
Commercial Cabin Rates:	
Tier 1 (0 - 300 GPD) 8,570 53.20 15.95 455,912 136,688 (See Commercial Cabin Rate Design Table Below) Tier 2.1 (301 - 400 GPD) 201 64,66 19.49 13,010 3,921	
Tier 2.2 (401 - 500 GPD) 88 76.13 23.02 6,717 2,031	
Tier 2.3 (501 - 600 GPD) 48 87.59 26.56 4,241 1,286	
Tier 2.4 (601 - 700 GPD) 57 99.05 30.10 5,648 1,716 Tier 2.5 (701 - 800 GPD) 31 110.52 33.63 3,448 1,049	
Tier 2.6 (801 - 900 GPD) 17 121.98 37.17 2,100 640	
Tier 2.7 (901 - 1,000 GPD) 20 133.44 40.71 2,728 832	
Tier 3.1 (1,001 - 2000 GPD) 44 254,15 77.95 11,211 3,439 Tier 3.2 (2,001 - 3,000 GPD) 4 374.86 115.19 1,613 496	
Tier 3.3 (3,001 - 4,000 GPD) 2 495.57 152.43 1,066 328	
Tier 3,4 (4,001 - 5,000 GPD) 0 616.28 189.67	
Tier 3.5 (5,001 - 6,000 GPD) 0 736.99 226.91 7ier 3.6 (6,001 - 7,000 GPD) 0 857.70 264.15	
Tier 3.7 (7,001 - 8,000 GPD) 1 978.41 301.391,053 324	
9,085 508,748 152,751 640,658 131,370	
Subtotal Monthly Service Fees 1,965,056 2,414,334 391,09' Sewer Access Fees 183,477 183,477 -	
Wastewater Revenues 2,148,533 578,741 2,597,811 391,093	

COMMERCIAL CABIN RATE DESIGN (Redesigned from GPD to Square Feet)

		Number of	Annual	Proposed Base	Proposed Escrow	Proposed Combined	Proposed Base	Proposed Escrow
Rate Class	Square Feet	Cabins	Bills	Rate	Rate	Rate	Revenue	Revenue
Small	0-1000 A/	9	565	62.00	12.00	74.00	35,030	6,780
Small	1001-2000	255	3060	62.00	12.00	74.00	189,720	36,720
Medium	2001-3000	214	2568	71.00	15.00	86.00	182,328	38,520
Medium	3001-4000	103	1236	71.00	15.00	86.00	87,756	18,540
Large	4001-5000	84	1008	84.00	18.00	102.00	84.672	18,144
Large	5001-6000	26	312	84.00	18.00	102,00	26,208	5,616
Extra Large	6001-7000	18	216	104.00	21.00	125.00	22,464	4,536
Extra Large	7001+	10	120	104.00	21.00	125.00	12,480	2,520
		719	9085				640,658	131,376

Commercial Cabin Class Increa	ise:
Proposed Combined Revenue	772,034
Current Combined Revenue	661,498
Class Revenue Increase	110,536
Class Percentage Increase	16.71%

WORKPAPERS

Tennessee Wastewater Systems, Inc. Revenue Workpapers For the 12 Months Ending December 31, 2020

											Average	Attrition
8		2010	2011	2012	2013	2014	2015	2016	2017	2018	Period	Amount
-	Residential	300,287	303,873	333,238	322,545	353,371	373,741	407,462	957,687	1,056,119	Priceout	1,115,892 A
2	Commercial	308,384	296,552	278,302	270,642	267,014	290,750	337,739	751,549	761,523	Priceout	849,164 B/
ო	Sewer Access Fees	199,700	169,254	208,212	204,997	197,208	182,918	198,628	178,680	173,123	ო	183,477
4	Operations & Maintenance	545,890	591,960	666,496	681,767	704,369	756,922	831,932	1,050	363	Elimination	0
2	Billing & Collecting	42,002	37,256	38,631	40,171	40,754	46,946	50,159	0	-161	Elimination	0
9	Bonding	11,959	12,630	11,683	48,172	61,332	43,804	39,228	37,459	4,182	Elimination	0
7	Franchise Income	2,265	2,398	2,403	2,305	2,479	2,502	2,582	2,787	3,390	Elimination	0
∞	Bioxide	-1,013	4,994	1,415	6,633	7,611	10,524	905	7,202	0	Elimination	0
თ	Penalty Fees	20,037	16,115	18,688	16,867	13,832	14,216	16,403	13,963	14,651	m	15,006
10	Developer Income	12,800	2,400	227,800	133,300	65,200	309,550	151,030	156,445	206,250	Elimination	/Q 0
7	Miscellaneous	0	0	0	0	0	0	1,715	2,690	3,689	Priceout	3,320 C/
12	Total Revenues	1,442,311	1,427,444	1,786,868	1,730,399	1,713,170	2,031,873	2,037,780	2,109,512	2,223,128		2,166,859

A/ Workpaper 3..
B/ Workpaper 3..
C/ Workpaper 4.
D/ Developer Income will be recorded as Contributions In Aid of Construction..

Tennessee Wastewater Systems, Inc.

Revenue Priceout - Residential Summary

Data 4.	2018 Test Period	Growth Adjustment	2020 Attr Period
Rate 1: Total Bills Net Base Rate Rate 1 Base Revenue	23,967 \$34.02 \$815,357.34	4,561 \$34.02 \$155,177.39	28,528 \$34.02 \$970,534.73
Rate 2: Total Bills Net Base Rate Rate 2 Base Revenue	424 \$34.02 \$14,424.48		424 \$34.02 \$14,424.48
Rate 5: Total Bills Net Base Rate Rate 5 Base Revenue	996 \$30.71 \$30,587.16		996 \$30.71 \$30,587.16
Rate 6: Total Bills Net Base Rate Rate 6 Base Revenue	1,894 \$30.71 \$58,164.74		1,894 \$30.71 \$58,164.74
Rate 9: Total Bills Net Base Rate Rate 9 Base Revenue	2,398 \$17.59 \$42,180.82 A/		2,398 \$17.59 \$42,180.82
Total Residential Revenues	\$960,714.54		<u>\$1,115,891.93</u>
Total Residential Bills	29,679 B/	4,561	34,240

A/ Not include TC Pass-through amount. B/ Tied to TPUC Form 3.19.

Tennessee Wastewater Systems, Inc. Revenue Priceout - Commercial Revenues

	Middle TN Bills	East TN Bills	Total Bills	Base Rate	Base Fee Revenue	Test Period Average Bill	Attrition Period Bills	Service Revenue
Commercial Without Food Rates:								
Tier 1 (0 - 300 GPD)	181	151	332	\$80.40	\$26,692.80		357	\$28,719.58
Tier 2.1 (301 - 400 GPD) Tier 2.2 (401 - 500 GPD)	0 48	0	0 48	\$96.43 \$112.46	\$0.00 \$5,398.08		0 52	\$0.00 \$5,807.96
Tier 2.3 (501 - 600 GPD)	12	0	12	\$128,49	\$1,541.88		13	\$1,658.95
Tier 2.4 (601 - 700 GPD)	12	3	3	\$144.52	\$433.56		3	\$466.48
Tier 2.5 (701 - 800 GPD)	12	2	14	\$160.55	\$2,247.70		15	\$2,418.37
Tier 2.6 (801 - 900 GPD)	0	_		\$176.59	\$0.00		0	\$0.00
Tier 2.7 (901 - 1,000 GPD)	24	3	27	\$192.62	\$5,200.74		29	\$5,595.63
Tier 3.1 (1,001 - 2000 GPD)	12	8	20	\$316.43	\$6,328.60		22	\$6,809.13
Tier 3.2 (2,001 - 3,000 GPD)	0	12	12	\$440.28	\$5,283.36		13	\$5,684.52
Tier 3.3 (3,001 - 4,000 GPD)	0	7	7	\$564,13	\$3,948.91		8	\$4,248.75
Tier 3.4 (4,001 - 5,000 GPD)	0	2	2	\$687.98	\$1,375,96		2	\$1,480,44
Tier 3.5 (5,001 - 6,000 GPD)				\$811.83	\$0.00		0	\$0.00
Tier 3.6 (6,001 - 7,000 GPD) Tier 3.7 (7,001 - 8,000 GPD)				\$935.68	\$0.00 \$0.00		0 0	\$0.00
Tier 3,8 (8,001 - 9,000 GPD)				\$1,059.53 \$1,183.38	\$0.00		0	\$0.00 \$0.00
Tier 3.9 (9,001 - 10,000 GPD)	24		24	\$1,783.38	\$31,373.52		26	\$33,755.71
1701 010 (0,001 70,000 01 2)			2-7	ψ1,007.20	ψ01,070.02		0	\$0.00
Unknown 25,000 GPD	12		12	\$3,164.98	\$37,979.76		13	\$40,863.56
Total	325	188	501		\$127,804.87	\$255.10	552	\$137,509.07
Commercial With Food Rates:								
Tier 1 (0 - 300 GPD)	24	55	79	\$107.15	\$8,464.85		85	\$9,107.58
Tier 2_1 (301 - 400 GPD)	12	4	16	\$126.43	\$2,022.88		17	\$2,176.48
Tier 2.2 (401 - 500 GPD)	24		24	\$145.71	\$3,497.04		26	\$3,762.57
Tier 2.3 (501 - 600 GPD)				\$164.99	\$0,00		0	\$0.00
Tier 2.4 (601 - 700 GPD)	0	1	1	\$184.27	\$184.27		1	\$198.26
Tier 2.5 (701 - 800 GPD)	24	2	26	\$203.55	\$5,292.30		28	\$5,694.14
Tier 2,6 (801 - 900 GPD)		5	5	\$222.83	\$1,114.15		5	\$1,198.75
Tier 2.7 (901 - 1,000 GPD) Tier 3.1 (1,001 - 2000 GPD)	18	15	33	\$242.11 \$393.82	\$0.00 \$12,996.06		0 36	\$0.00 \$13,982.85
Tier 3.2 (2,001 - 3,000 GPD)	12	12	24	\$545.53	\$13,092.72		26	\$14,086.85
Tier 3.3 (3,001 - 4,000 GPD)	0	2	2	\$697,24	\$1,394.48		2	\$1,500.36
Tier 3.4 (4,001 - 5,000 GPD)	12	_	12	\$849.02	\$10,188.24		13	\$10,961.83
Tier 3.5 (5,001 - 6,000 GPD)	12		12	\$1,000.80	\$12,009.60		13	\$12,921.49
Tier 3,6 (6,001 - 7,000 GPD)				\$1,152,58	\$0.00		0	\$0.00
Tier 3.7 (7,001 - 8,000 GPD)				\$1,304,36	\$0.00		0	\$0.00
Tier 3.8 (8,001 - 9,000 GPD)	36		36	\$1,456.14	\$52,421.04		39	\$56,401.36
Tier 3.9 (9,001 - 10,000 GPD)	12		12	\$1,607.92	\$19,295.04		13	\$20,760.11
Habaarra 05 000 CDD	40		40	#0 004 00	040.045.44		0	\$0.00
Unknown 25,000 GPD	12		12	\$3,884.62	\$46,615.44 \$0.00		13 0	\$50,154.94 \$0.00
Total	198	96	294		\$188,588.11	\$641_46	316	\$202,907.57

Commercial Cabin Rates:								
Tier 1 (0 - 300 GPD)		7,965	7,965	\$53.20	\$423,738.00		8,570	
Tier 2.1 (301 - 400 GPD)		187	187	\$64.66	\$12,091.42		201	
Tier 2.2 (401 - 500 GPD)		82	82	\$76.13	\$6,242-66		88	
Tier 2.3 (501 - 600 GPD)		45	45	\$87.59	\$3,941.55		48	
Tier 2.4 (601 - 700 GPD)		53	53	\$99.05	\$5,249.65		57	
Tier 2.5 (701 - 800 GPD)		29	29	\$110.52	\$3,205.08		31	
Tier 2.6 (801 - 900 GPD)		16 19	16 19	\$121.98 \$133.44	\$1,951.68 \$2,535.36		17 20	
Tier 2.7 (901 - 1,000 GPD) Tier 3.1 (1,001 - 2000 GPD)		41	41	\$254.15	\$10,420.15		44	
Tier 3.2 (2,001 - 3,000 GPD)		4	4	\$374.86	\$1,499.44		4	
Tier 3.3 (3,001 - 4,000 GPD)		2	2	\$495.57	\$991.14		2	
Tier 3.4 (4,001 - 5,000 GPD)		ō	ō	\$616.28	\$0.00		0	
Tier 3,5 (5,001 - 6,000 GPD)		0	0	\$736.99	\$0.00		0	
Tier 3.6 (6,001 - 7,000 GPD)		0	0	\$857.70	\$0,00		0	
Tier 3.7 (7,001 - 8,000 GPD)		1	1	\$978.41	\$978.41		1	6500 747 55
Total	:	8,444	8,444		\$472,844.54	\$56.00	9,085	\$508,747.55
Total Commercial Revenue			9,239		\$789,237.52		8==	\$849,164.19

Tennessee Wastewater Systems, Inc. Revenue Priceout - Miscellaneous Revenue

	2017 Determinants	2018 Determinants	Average Determinants	Tariff Rate	Attrition Revenue
Disconnection Revenue:					
East Tennessee	6	30	18	\$40.00	\$720.00
Middle Tennessee	30	20	25	40.00	1000.00
Total Disconnection Revenue	36	50	43		\$1,720.00
Reconnection Revenue:					
East Tennessee	3	24	14	\$50.00	\$675.00
Middle Tennessee	22	12	17	50.00	850.00
Total Reconnection Revenue	25	36	31	_	\$1,525.00

nvenience Fee Revenue:	2017	2018	Average	Attrition
Month	Amount	Amount	Amount	Amount
January	\$639.87	\$875.14	\$757.51	\$0.00
February	603.08	944.75	\$773.92	0.00
March	577.96	858.08	\$718.02	0.00
April	578.17	792.94	\$685.56	0.00
May	570.43	952.48	\$761.46	0.00
June	675.80	1,068.51	\$872.16	0.00
July	632.13	933.90	\$783.02	0.00
August	621.62	994.57	\$808.10	0.00
September	663.33	1,031,67	\$847.50	0.00
October	527.48	1,119.34	\$823.41	0.00
November	705.00	1,002.41	\$853.71	0.00
December	789.09	1,174.80	\$981.95	0.00
Total	\$7,583.96	\$11,748.59	\$9,666.28	\$0.00

Convenience Fee Revenue is non-tariffed. Therefore, these revenues are excluded from the rate case.

	2017 Determinants	2018 Determinants	Average Determinants	Tariff Rate	Attrition Revenue
Returned Check Revenue:					
East Tennessee	2	1	1.5	25.00	\$37.50
Middle Tennessee	1	2	1.5	25.00	\$37.50
Total Returned Check Revenue	3	3	3		\$75.00
				3	

Total Miscellaneous Revenue \$3,320.00

A/ Monthly figures from 2017 and 2018 Bank and NSF Fees spreadsheets.

Tennessee Wastewater Systems, Inc. Operating & Maintenance Expense Workpaper For the 12 Months Ending December 31, 2020

No.		2010	2011	2012	2013	2014	2015	2016	2017	2018	Method	Attrition
,	Salary & Wages Expense - Employees	0	0	0	0	239,588	516,024	450,488	551,087	642,157	Priceout	623,560 AV
2	Salary & Wages Expense - Officers	0	0	0	0	187	537	875	0	0	Eliminate	0
ო	Life Insurance Expense	0	o	0	0	1,403	2,399	1,917	1,919	2,091	GDP Deflator	2,145
4	Worker's Compensation Expense	0	0	0	0	19,787	1,354	16,100	16,705	16,196	Priceout Workpaper	18,864 A/
n	IRA Contribution Expense	0	0	0	0	1.782	5,966	6,321	10,252	14,611	Priceout Workpaper	13,865 A/
9	Purchased Wastewater Treatment Expense	111,892	99,492	136,839	112,918	115,073	105,897	107,923	110,812	116,597	Eliminate Pass-Through	0
_	Purchased Power Expense	37,124	38,843	61,113	94,039	121,791	118,441	132,976	144,155	160,563	Inflation Factor	177,021
ω	Telemetry Monitoring Expense	21,165	19,568	37,633	64,378	97,229	124,173	157,838	166,827	173,192	GDP Deflator	177,643
o	Bioxide Expense	0	0	17,267	0	0	0	3,882	2,208	3,680	Eliminate Pass-Through	0
10	Materials & Supplies Expense	3,097	0	92,077	1,520	140,190	179,399	696'29	104,460	190,953	Priceout Workpaper	260,088
÷	Total Operation & Maintenance Expense	173,278	157,903	344,929	272,855	737,030	1,054,190	946,289	1,108,427	1,320,041		1,273,186

A Workpaper 6.

Tennessee Wastewater Systems, Inc. Salary Expense Summary For the 12 Months Ending December 31, 2020

Ε/] = U	Tay T	Amount	33	2 4	S 12	3 4	3 4	3 4	3 4	3 4	3 4	8 4	8 4	2, 25	92	299	784
		ΔTIITΔ		420	720	420 \$	420	420	420 6	420	420	027	420	420	420	420 \$	420	5 880
		2020	2 00	u	, ,) (·	. 4		16	u	. ") tr	• •	1/3	69	40	
<u>`</u>	2020 EICA	Expense @ 2020 FIITA	7.65%	3 244	2,625	2.786	1 989	3.490	3 978	3 967	4 313	2.458	3,349	4 957	4.860	2,307	1,989	46 343
	20	3 2		u) V	6	4	67	69	65	66	1	69	69	60	G	69	
	Workers	Compensation	Amount	61 14	1 212 49	52.52	91855	1.611.66	\$ 1837.11	1,832,00	1 991 78	1 135 33	1.546.53	2,289.32	2.244.59	\$ 1,065.52	\$ 1,065.52	18.864
					,	,			,	0,	0,		, 0,	,	0,	0,	0,	1
Ö	Workers	Compensation	Rate	0.14%	3.43%	0.14%	3.43%	3.43%	3.43%	3.43%	3.43%	3.43%	3.43%	3.43%	3.43%	3.43%	3.43%	
	IRA	Contribution	Amount		1,060	1,125	*	1,410	1,607	1,602	1,742	ě	1,353	2,002	1,963	v		13.865
			Ā	49	10	w	w	49	49	(4)	6/9	1/2	w	69	11)	w	↔	49
₹	IRA	Contribution	Percent	%0	3%	3%	%0	3%	3%	3%	3%	%0	3%	3%	3%	%0	%0	
	2020	Pro Forma	Base Pay	\$ 43,672.00	\$ 35,349 60	\$ 37,513.42	\$ 26,780,00	\$ 46,987.26	\$ 53,560.00	\$ 53,411.01	\$ 58,069.35	\$ 33,100,08	\$ 45,088.25	\$ 66,744,00	\$ 65,440,02	\$ 31,064,80	\$ 26,780,00	\$ 623,560
B/	3%	2020	Adjustments	1,272,00	1,029.60	1,092.62	780,00	1,368.56	1,560,00	1,555,66	1,691.34	964,08	1,313,25	1,944.00	1,906.02	904.80	780,00	18.162
			Adji	w	(r)	w	69	(1)	s	10	0	w	w	w	60	S	50	49
	Annual	Compensation	Projection	42,400 00	34,320,00	36,420,80	26,000,00	45,618.70	52,000,00	51,855,35	56,378,01	32,136.00	43,775.00	64,800,00	63,534.00	30,160.00	- 1	605,397.86
			Hours	S	2080 \$	2080 \$	2080 \$	69	s	69	w	2080 \$	w	w	2080 \$	2080 \$	2080 \$	4
A	2019	Compensation Annualized	Rate		16.50	17,51	12.50					15.45			28.62	14.50	12.50	
		õ			69	69	↔					69			69	69	69	
			Position	Z55872 CUSTOMER CARE	2 152209 MAINTENANCE TECHNICIAN	3 P52095 CUSTOMER CARE	4 B57434 MAINTENANCE TECHNICIAN)PERATOR I	V52100 OPERATOR I	7 N52094 OPERATOR II	8 L52092 OPERATIONS MANAGER	9 U52099 MAINTENANCE TECHNICIAN	10 J52090 MAINTENANCE TECH - EXEMPT	11 S52097 TEAM LEADER MTN	PERATOR II	13 R52096 MAINTENANCE TECH - EXEMPT	14 Vacant MAINTENANCE TECH	
		ЕтрІоуее	₽	1 Z55872 C	2 I52209 M	3 P52095 C	4 B57434 M	5 M52093 OPERATOR I	6 V52100 O	7 N52094 O	8 L52092 O	9 U52099 M	10 J52090 M	11 S52097 T.	12 T52098 OPERATOR II	13 R52096 M	14 Vacant M	

A Payroll per TWSI Email 12-26-19 (13 Current employees + 1 Vacant.)
B/ Assumes 3% annual cost of living increase.
C/ June 2019 Worker's Comp Report.
D/ 6.2% Social Security + 1.45% Medicare
E/ https://www.tn.gov/workforce/article/ui-tax-rates

Tennessee Wastewater Systems, Inc. Contractual Services Expense Workpaper For the 12 Months Ending December 31, 2020

						!	11000				Attrition
	26,691	55,460	0	100,534	110,435	2015 256,068	48,271	9,591	25,594	Method 2-Year Average	Amount 17,593
	745	150	0	0	3,925	12,677	12,305	909'6	7,932	GDP Deflator	8,136
	546,885	590,506	922,352	846,590	387,211	15,212	48,724	2,159	12,247	2-Year Average	7,203
	0	0	06	5,460	6,143	22,352	376	8,779	1,505	GDP Deflator	1,544
	6,910	8,705	6,715	2,605	19,575	20,947	21,890	23,469	28,063	Double Test Period	56,125 A/
	2,178	2,564	2,279	5,122	2,552	3,169	5,519	7,340	5,831	GDP Deflator	5,981
	218,560	139,859	68,274	109,993	81,213	148,788	223,460	116,473	321,257	Priceout Workpaper	231,020
	0	0	0	0	0	O	41,502	0	74,238	Priceout Workpaper	59,068
Total Contractual Services Expense	801,969	797,244	999,710	1,070,304	611,054	479,213	402,047	177,418	476,667		386,670

A Based on conversation with management regarding need for better maintenance of system grounds. Efforts during 2019 to clean up system grounds showed \$81,096 spent for contract lawn maintenance YTD Nov 2019.

Tennessee Wastewater Systems, Inc. Administrative & General Expense Workpapers For the 12 Months Ending December 31, 2020

Rent Registration Renewal Fuel Expense Vehicle Maintenance Insurance Regulatory Commission Expense Depreciation Expense Letter of Credit Fees Interest Expense Licenses & Permits	2011 2012 2013 2014 2015 2016 2017 2018	945 60,945 Friceout Workpaper	0 0 0 0 118 1,489 288 1,435 618 2-Year 1,026 Average	0 0 0 20,045 35,185 37,055 50,800 66,023 GDP 67,719 Deflator	0 0 0 4,553 26,941 30,197 27,391 25,955 GDP 26,622 Deflator	335 366 231 641 3,031 11,784 17,744 30,766 38,162 GDP 39,143 Deflator	5,395 5,608 5,583 6,057 6,788 7,032 10,182 104,655 8,279 Other 0 Taxes	1,533 1,219 1,219 12,620 56,997 111,638 87,601 124,530 Priceout 112,065 Workpaper	6,735 52,165 60,573 47,243 45,037 43,710 43,710 5,696 10,500 Eliminate 0	4,335 2,294 761 0 192 10,116 13,237 12,431 10,451 A/ 7,447	14,470 34,150 35,250 42,484 38,762 11,681 77,052 68,722 43,246 GDP 44,358 Deflator	15,345 7,634 2,998 8,413 2,908 38,787 0 112,013 7,875 Priceout 8,536 Workpaper	
Registration Renewal Fuel Expense Insurance Regulatory Commission Expense Depreciation Expense Letter of Credit Fees Interest Expense Licenses & Permits Uncollectible Expense	2011 2012	13,890	0	0	0	366	5,608	1,219	52,165	2,294	34,150	7,634	
<u> </u>	201			3 Fuel Expense									

A/ Traced to interest for bank loans from Wilson Bank & Trust for equipment with loan period through the Attrition Period.

Tennessee Wastewater Systems, Inc. Miscellaneous Expense Workpapers For the 12 Months Ending December 31, 2020

Attrition	0	19,731	13,513	4,954	10,735	1,060	10,958	23,727	0	0	0	1,012	85,691
Average	Eliminate 1T Expense	2-Year Average	2-Year Average	2-Year Average	GDP Deflator	GDP Deflator	Inflation Factor	GDP Deflator	Eliminate Disallowed	Eliminate Pass Through	Eliminate	2-Year Average	
2018	726	7,177	19,406	330	10,466	1,034	6,939	23,133	40	3,383	0	1,800	77,433
2017	-33,570	32,286	7,620	9,579	8,672	1,043	9,337	22,533	640	2,734	720	225	61,817
2016	10,950	6,227	5,754	47,141	13,241	435	999'8	12,630	069	2,580	720	860	109,894
2015	15,284	835	1,540	40,513	12,238	0	8,049	13,285	4,784	2,506	096	1,033	101,027
2014	0	163	5,609	3,047	3,742	0	3,861	9,400	089	2,464	096	720	30,646
2013	O	0	0	0	1,013	0	0	0	3,590	2,449	480	9,400	16,932
2012	o	0	0	0	0	0	0	0	440	2,405	2,099	10,400	15,344
2011	0	0	0	0	0	0	3,728	0	440	2,390	096	13,000	20,518
2010	0	0	0	0	497	0	4,595	0	105	2,279	2,884	1,320	11,680
1	Website & Internet Hosting	Equipment Maintenance	Equipment Rental	Small Equipment Purchases	Telephone	Office Supplies	Postage	Software Licenses	Membership Dues	Franchise Fees	Billing Costs	Other	Total Miscellaneous Expense
Line No.	•	N .	m :	4	io :	w)	7	60	O)	9	Ξ	12	13

Tennessee Wastewater Systems, Inc.
Taxes Other Than Income Tax Expense Workpapers
For the 12 Months Ending December 31, 2020

Attrition	59,155 C/	60,247 B/	52,977 AJ	172,379
Average	ŭ.	Priceout	Priceout	
2018	59,155	58,000	49,703	166,858
2017	61,213	86,175	41,417	188,804
2016	77,933	40,240	37,955	156,128
2015	51,983	53,650	42,459	115,303 148,092 156,128
2014	58,787	37,427	19,089	115,303
2013	65,555	960'56	0	160,651
2012	64,537	48,824	0	113,361
2011	75,451	64,839	0	140,290
2010	56,733	80,704	0	137,437
Line No.	Property laxes	2 Franchise	3 Payroll Taxes	Total Other Taxes Expense
No.	F	2	м	4

A Salary & Wage Priceout Workpaper.

B/ 2018 UPIS (24098823) / 100 *.25

C/ Since amount decreased from 2017 to 2018, amount was held constant at 2018 total.

NOTE: There was an \$87.00 adjusted deduction to the total of \$59,155, which results in an Attrition Year forecast of \$59,068.

Tennessee Wastewater Systems, Inc.
Non-Utility Expense Workpapers
For the 12 Months Ending December 31, 2020

Attrition	0	0	1,510	3,681	1,409	0	6,600
Average	¥	A	B/	/S	/Q	Ā	
2018	155 155	6,237	2,580 2,580	8,287	7,247	1,200	25,705
2017	1,428	4,707	2,132	7,708	304 7,551	-16,711	-431
2016	265 1,848	2,773 13,717	939 5,651	5,378 21,373	3,182	16,709 1,198	29,246
2015	364 2,212	2,402 16,119	7,050 12,701	5,697 27,070	623 11,356	1,198	16,136
2014	2,212	844 16,963	3,840 16,541	3,112 30,182	350 11,706	1,198	8,146
2013	2,212	0 16,963	390 16,931	6,191 36,373	2 44 11,950	1.198	6,825
2012	2,212	0 16,963	16,931	7,018 43,391	0 11,950	1,198	7,018
2011	2,212	0 16,963	123 17,054	6,929 50,320	11,950	1,198	7,052
2010	0 2,212	0 16,963	1,000	4,446 54,766	11,200 23,150	1,198	16,646
1	Lodging C <i>umulati</i> ve Amounts	Meals & Entertainment Cumulative Amounts	Dues & Subscriptions Cumulative Amounts	Banking & NSF Fees Cumulative Amounts	Miscellaneous Cumulative Amounts	Construction Cumulative Amounts	Total Non-Utility Expense
Line No.	e-	2	ო	4	5	9	7

A Disallowed expenses.

B/ Adjusted to remove association and lobbying expenses.

C/ Adjusted to reflect banking service charges and payroll direct deposit fees.

D/ Adjusted to reflect recurring trash removal expenses.

VERIFICATION

STATE OF TENNESSEE)
COUNTY OF DOVIDED)
I, Kevin McClenathan, being duly sworn, state that I am authorized to make this verification on behalf of TPUC Staff (As a Party); that I have read the foregoing Pre-filed Direct Testimony, Exhibits and Workpapers of Kevin McClenathan and know the content thereof; and that the same are true and correct to the best of my knowledge, information and belief.
Kevin McClenathan
Sworn to and subscribed before me the 315+ day of January, 2020.
Notary Public My Commission Expires: 3/8/2020