

SSION.C. SECRET ROOM

Docket No. 16-00139

May 24, 2017

IN THE TENNESSEE PUBLIC UTILITY COMMISSION
AT NASHVILLE, TENNESSEE

IN RE:

PETITION OF TENNESSEE
WASTEWATER SYSTEMS, INC., FOR
APPROVAL OF ADJUSTMENT OF ITS
RATES AND NEW TARIFF

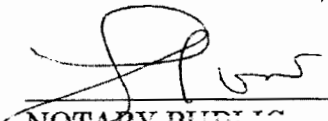
DOCKET NO. 16-00139

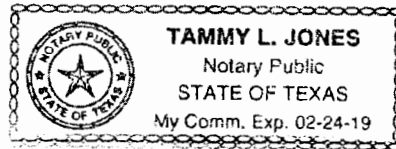
AFFIDAVIT

I, William H. Novak, CPA, on behalf of the Consumer Advocate Division of the Attorney General's Office, hereby certify that the attached Direct Testimony represents my opinion in the above-referenced case and the opinion of the Consumer Advocate Division.


WILLIAM H. NOVAK

Sworn to and subscribed before me
this 16 day of May, 2017.


NOTARY PUBLIC



My commission expires: 2-24-19

ATTACHMENTS

Attachment WHN-1

William H. Novak Vitae

1 ***Q1. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND***
2 ***OCCUPATION FOR THE RECORD.***

3 A1. My name is William H. Novak. My business address is 19 Morning Arbor Place,
4 The Woodlands, TX, 77381. I am the President of WHN Consulting, a utility
5 consulting and expert witness services company.¹

6
7 ***Q2. PLEASE PROVIDE A SUMMARY OF YOUR BACKGROUND AND***
8 ***PROFESSIONAL EXPERIENCE.***

9 A2. A detailed description of my educational and professional background is provided
10 in Attachment WHN-1 to my testimony. Briefly, I have both a Bachelor's degree
11 in Business Administration with a major in Accounting, and a Master's degree in
12 Business Administration from Middle Tennessee State University. I am a
13 Certified Management Accountant, and am also licensed to practice as a Certified
14 Public Accountant.

15
16 My work experience has centered on regulated utilities for over 35 years. Before
17 establishing WHN Consulting, I was Chief of the Energy & Water Division of the
18 Tennessee Public Utility Commission (the Commission) where I had either
19 presented testimony or advised the Commission on a host of regulatory issues for
20 over 19 years. In addition, I was previously the Director of Rates & Regulatory
21 Analysis for two years with Atlanta Gas Light Company, a natural gas
22 distribution utility with operations in Georgia and Tennessee. I also served for

¹ State of Tennessee, Registered Accounting Firm ID 3682.

1 two years as the Vice President of Regulatory Compliance for Sequent Energy
2 Management, a natural gas trading and optimization entity in Texas, where I was
3 responsible for ensuring the firm's compliance with state and federal regulatory
4 requirements.

5
6 In 2004, I established WHN Consulting as a utility consulting and expert witness
7 services company. Since 2004, WHN Consulting has provided testimony or
8 consulting services to state public utility commissions and state consumer
9 advocates in at least ten state jurisdictions as shown in Attachment WHN-1.

10
11 ***Q3. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?***

12 A3. I am testifying on behalf of the Consumer Protection and Advocate Division (the
13 Consumer Advocate) of the Tennessee Attorney General's Office.

14
15 ***Q4. HAVE YOU PRESENTED TESTIMONY IN ANY PREVIOUS CASES
16 CONCERNING TENNESSEE WASTEWATER SYSTEMS, INC.?***

17 A4. Yes. Most recently, I presented testimony in Commission Docket No. 14-00136
18 regarding a capital improvement surcharge for Tennessee Wastewater Systems,
19 Inc. (TWSI).

20
21 ***Q5. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS
22 PROCEEDING?***

1 A5. My testimony will support and address the Consumer Advocate's positions and
2 concerns with respect to the Company's Petition. Specifically, I will address the
3 following:
4 i. The Consumer Advocate's proposed attrition period results of operations;
5 ii. The Consumer Advocate's recommendation for a compliance audit on
6 TWSI's off-tariff billing rates for commercial customers and "convenience
7 fees"; and
8 iii. The Consumer Advocate's recommendation that TWSI be required to
9 submit a plan for the improvement of its accounting practices to prevent
10 on-going problems.

11
12 ***Q6. PLEASE SUMMARIZE YOUR RECOMMENDATIONS AND CONCERNS***
13 ***IN THIS DOCKET.***

14 A6. My recommendations and concerns are as follows:
15 • There are current deficiencies in TWSI's processes for recording revenues and
16 expenses. As a result, in my opinion, TWSI's books cannot be relied upon as
17 a basis for setting rates. My own analysis reveals that rates should actually be
18 reduced by approximately \$254,000. However, I am recommending that
19 current rates remain unchanged at this time due to these deficiencies.
20
21 • My investigation revealed several incidents where TWSI was applying
22 charges to some of its commercial customers that were not authorized in their
23 tariff. I also discovered instances where TWSI was imposing credit card
24 charges to its customers that were not approved in their tariff. As a result, I
25 am recommending that the Commission conduct a compliance audit of
26 TWSI's billing rates and revenues to determine the refunds that should be
27 made to consumers. I also recommend that this compliance audit be
28 completed before any change in rates is considered.
29

1 ***Q7. WHAT DOCUMENTS HAVE YOU REVIEWED IN PREPARATION OF***
2 ***YOUR TESTIMONY?***

3 A7. I have reviewed TWSI's Petition filed on November 29, 2016, along with the
4 accompanying schedules. I have also reviewed TWSI's responses to the data
5 requests submitted by the Consumer Advocate and the Commission Staff in this
6 Docket. Finally, I reviewed the Settlement Agreement between TWSI and the
7 Consumer Advocate that was adopted by the Commission from TWSI's last rate
8 case in Docket No. 08-00202.

9
10 ***Q8. MR. NOVAK, BEFORE WE BEGIN WITH YOUR ANALYSES OF***
11 ***TWSI'S RATE CASE, DO YOU HAVE ANY COMMENTS ON HOW***
12 ***TWSI'S FILING WAS PREPARED AND PRESENTED TO THE***
13 ***COMMISSION?***

14 A8. Yes. TWSI's rate case filing was prepared and presented to the Commission with
15 only a minimal amount of supporting information. Further, TWSI's responses to
16 several data requests (as well as a general lack of narrative responses) failed to
17 provide adequate support for the request for an increase in rates.² As a result of
18 these deficiencies, the Consumer Advocate was forced to issue a significant
19 number of data requests³ in this Docket, often without receiving the source of
20 TWSI's calculations.

² See especially Commission Staff's Data Request 1-1, where TWSI responded that "TWSI does not keep records in this manner and as such it would be a substantial drain on company resources with regards to personnel, time, and money to attempt to pull this information together into a proper response. TWSI is more than happy to have [Commission] staff come to the TWSI offices to go over this request and any records which would help the staff find the information it seeks."

³ 281 total requests with subparts issued by the Consumer Advocate in addition to 76 requests issued by the Commission Staff.

1

2 ***Q8. PLEASE EXPLAIN THE RELIEF THAT TWSI IS ASKING FROM THE***
3 ***COMMISSION THROUGH ITS PETITION.***

4 A8. TWSI is asking the Commission for a rate increase of approximately \$493,000 or
5 24% based on a 2015 test period.⁴ TWSI is also seeking to make certain changes
6 to its commercial cabin tariff that applies a new rate based on square footage
7 instead of design usage.

8

9 ***Q9. WHAT TEST PERIOD AND ATTRITION PERIOD HAVE YOU***
10 ***ADOPTED FOR THIS CASE?***

11 A9. I believe that the 2015 test period proposed by TWSI is somewhat stale at this
12 point and needs to be updated. Instead, I am recommending that the Commission
13 adopt the twelve months ended December 31, 2016, as the appropriate test period
14 since this reflects the most recent fiscal year close for the Company. I also
15 recommend that the Commission adopt the twelve months ending December 31,
16 2018 as the appropriate attrition year since this will be the first full year that any
17 new rates will be in effect.

18

19 ***Q10. HAVE YOU CAUSED TO BE FILED A MULTI-PAGE EXHIBIT IN THIS***
20 ***CASE CONSISTING OF 11 SCHEDULES AND 11 WORKPAPERS?***

⁴ Direct testimony of TWSI witness Hyatt, Page 2. However, on Page 4 of his testimony, Mr. Hyatt appears to limit this rate increase to 20%.

1 A11. Yes. As shown on CPAD Exhibit, Schedule 1, my proposed revenue
2 deficiency/surplus calculation required to produce a 6.50% operating margin
3 results in a revenue decrease of approximately \$254,000.
4 As shown on Schedule 1, the revenue deficiency/surplus calculation begins by
5 taking the attrition period operating expenses of approximately \$2.349 million
6 and multiplying by the fair operating margin of 6.50% to get the required
7 operating income of approximately \$153,000. Next, the attrition period operating
8 income at current rates of \$310,000 is subtracted to get the operating income
9 surplus of approximately \$157,000. Finally, this operating income surplus is
10 multiplied by a revenue conversion factor to gross-up this amount for taxes and
11 other items to get the revenue surplus of approximately \$254,000. Again, the
12 \$254,000 represents how much rates should be reduced in order for TWSI to
13 achieve a 6.50% operating margin.

14
15 ***Q11. HOW DID YOU DETERMINE THAT A 6.50% OPERATING MARGIN***
16 ***WAS APPROPRIATE?***

17 A11. The 6.50% operating margin is the same rate approved by the Commission in the
18 latest rate cases for Cartwright Creek (Docket No. 16-00127), Integrated
19 Resources Management (Docket No. 15-00130) and Aqua Utilities (Docket No.
20 15-00044). In addition, the 6.50% operating margin is the same rate adopted by
21 the Commission in TWSI's last rate case (Docket No. 08-00202). I would
22 therefore recommend that the Commission adopt 6.50% as the fair operating
23 margin for TWSI in this case.

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***Q12. HOW WERE YOU ABLE DETERMINE THE ATTRITION PERIOD
OPERATING INCOME AT CURRENT RATES OF APPROXIMATELY
\$310,000?***

A12. The attrition period operating income at current rates is shown in detail on CPAD Exhibit, Schedule 2. In summary, the attrition period operating expenses of \$2,348,670 were subtracted from the attrition period revenues of \$2,658,604 to get attrition period operating income of \$309,934.

The attrition period revenues of \$2,658,604 were obtained through a price-out of customers for each particular tariff rate. The summary of this revenue price-out is shown on CPAD Exhibit, Schedule 3. As shown on Schedule 3, the residential and commercial revenues have been priced-out with the details shown on Workpapers 1, 8, 9 and 10. Also as shown on Schedule 3, the revenues associated with Operations and Maintenance and Billing & Collecting and been rolled up within the residential and commercial revenue price-outs. In addition, the test period revenues associated with Bonding, Franchise Income and Bioxide have been eliminated since they are the result of specific pass-through surcharges and not a part of base rates. The remaining revenues consist of Access Fees, Developer Operating Subsidies, Late Payment fees and Miscellaneous Revenues. These items are included in the revenue calculation consistent with past Commission practice in other rate cases.

The attrition period expenses of \$2,348,670 shown on CPAD Exhibit, Schedule 2 are shown in more detail on Schedules 4 through 10, with detail support on

1 Workpapers 2 through 7. For reference purposes, I have classified TWSI's
2 expenses into seven categories for Operating Expenses, Contractual Service
3 Expenses, Administrative & General Expenses, Miscellaneous Expenses, Taxes
4 Other Than Income Taxes, Non-Utility Expenses and Income Tax Expenses. In
5 general, expenses were either grown or priced-out at appropriate rates to produce
6 the attrition period expenses. The price-out of salary and wages is shown in detail
7 on Workpaper 10. The remaining expenses, that could not be specifically priced-
8 out, were calculated by averaging an appropriate prior period for each expense
9 account as shown on Workpapers 2 through 7.

10
11 ***Q13. DID YOU EXPERIENCE ANY ISSUES IN THE REVENUE PRICE-OUT***
12 ***THAT YOU JUST DESCRIBED?***

13 A13. Yes. I discovered several situations in which TWSI was not applying the
14 appropriate commercial tariff rate. In addition, I found TWSI was applying a
15 “convenience fee” surcharge for credit card payments without tariff authorization.
16 Finally, I discovered that TWSI had “recast” how it had recorded certain expenses
17 making it difficult to analyze going level changes.

18
19 ***Q14. PLEASE EXPLAIN THE ISSUES YOU FOUND REGARDING THE***
20 ***MISAPPLICATION OF COMMERCIAL TARIFF RATES.***

21 A14. In a number of instances, TWSI appears to have adjusted its tariff rates for
22 Commercial customers. Specifically, as shown on Workpaper 9, we found 65
23 commercial accounts where the billing rates consistently did not tie to TWSI's

tariff. For example, Table 1 below shows the monthly billing rates for three different Commercial accounts. As shown in Table 1, for the first and third account, TWSI appears to change the billing rate every month, with none of the rates tying to the TWSI tariff. For the second account, the billing rate remains constant (except for the September 2016 change in the bonding rate), however none of these rates tie to the TWSI tariff.

TABLE 1 – SELECT COMMERCIAL ACCOUNTS ⁵			
Month	Commercial Without Food TNTR0001-798	Commercial With Food TNCOM0008-557	Commercial Cabin TNBBR0090-1709
January 2016	\$424.04	\$579.49	\$223.46
February	402.87	579.49	227.10
March	460.70	579.49	220.47
April	491.04	579.49	148.89
May	628.66	579.49	159.99
June	585.37	579.49	190.29
July	791.24	579.49	267.52
August	559.45	579.49	387.10
September	578.32	579.56	210.27
October	724.00	579.56	223.53
November	535.04	579.56	190.53
December	449.23	579.56	160.50

Q15. DID YOU REQUEST THAT TWSI RECONCILE THESE PARTICULAR ACCOUNTS TO THEIR TARIFF?

A15. Yes. The Consumer Advocate issued a number of data requests on this issue as well as a separate letter asking for the reconciliation of these 65 accounts. TWSI was unable to provide such a reconciliation or even an adequate explanation as to why the billing rates for these accounts do not tie back to the tariff rates. TWSI's inability to resolve this issue makes it very difficult for me to have any confidence in the rate setting process for this docket since I am unable to confirm TWSI's

⁵ From responses to CPAD Informal Data Request 5-2.

1 basis for the current customer charges. These deficiencies need to be addressed
2 and corrections made to TWSI's record-keeping and accounting practices. TWSI
3 should be required to develop a remediation plan to bring its accounting and
4 record-keeping up to industry standards.

5
6 ***Q16. PLEASE DESCRIBE THE CREDIT CARD CONVENIENCE FEE***
7 ***CHARGES THAT TWSI BILLS TO ITS CUSTOMERS.***

8 A16. TWSI has apparently implemented a 3.00% surcharge to its tariff rates for
9 customers who choose to pay by credit card, which TWSI refers to as a
10 "convenience fee". It is not entirely clear as to exactly when this "convenience
11 fee" surcharge began, but it has apparently been in place since at least 2011.⁶
12 However, this "convenience fee" surcharge was never approved by the
13 Commission and therefore is an unlawful charge by TWSI to its customers. For
14 the 2016 test period, the total "convenience fee" surcharged to customers was
15 \$6,237.43.⁷ Because this is an illegal surcharge to customers, I have excluded this
16 revenue stream from my revenue surplus calculation.

17
18 ***Q17. WHAT IS YOUR RECOMMENDATION AS TO HOW THE***
19 ***COMMISSION SHOULD DEAL WITH PRIOR CONVENIENCE FEE***
20 ***COLLECTIONS?***

21 A17. Because the "convenience fee" was surcharged to customers without Commission
22 approval, it must be refunded back to the individual customers that paid this

⁶ TWSI response to CPAD Data Request 2-120.

⁷ TWSI response to CPAD Informal Data Request 5-6.

1 surcharge. This refund needs to include all “convenience fee” surcharges since
2 inception which will likely require a Commission Staff audit of the revenue
3 collection process which I discuss later in my testimony. In addition, this refund
4 of “convenience fee” surcharges should also include any appropriate interest and
5 penalties.
6

7 ***Q18. PLEASE DESCRIBE THE RECASTING THAT TOOK PLACE IN 2014.***

8 A18. According to TWSI, the Commission directed them in the 2008 rate case to
9 establish the utility as a stand-alone company that pays for the actual cost and
10 expense of operation without allocation from other affiliates.⁸ Sometime in the
11 middle of 2014, TWSI implemented this transition to a stand-alone utility.⁹ TWSI
12 has referred to this change as a “recasting” of expenses in their discussions with
13 the Consumer Advocate. While I do support TWSI’s change in reporting
14 structure, it has created a significant challenge to calculate the going-level
15 amounts for several expenses. Specifically, during a rate case analysis, I
16 generally attempt to analyze historical expenses by account for several years to
17 determine a consistent going-level amount that can be used for setting rates.
18 Because of TWSI’s change in operating structure, this normal process was a
19 challenge since only the data from 2015 forward could be considered in many of
20 the going-level calculation. This certainly necessitated a change in test period
21 from 2015 to 2016. It also made it difficult to gauge the proper going-level of
22 expenses for setting rates. As a result, I do not have the same level of confidence

⁸ Direct testimony of TWSI witness Hyatt, Page 3.

⁹ TWSI response to Commission Staff Data Request 2-3.

1 in the methodology used for setting rates in this case as I discuss later in my
2 testimony.

3
4 **Q19. MR. NOVAK, YOU HAVE CALCULATED A REVENUE SURPLUS OF**
5 **APPROXIMATELY \$254,000. HOW ARE YOU RECOMMENDING**
6 **THAT RATES BE ADJUSTED TO REDUCE REVENUES BY THIS**
7 **AMOUNT?**

8 A19. At this time, I am recommending that the Commission retain the present rates
9 with no adjustment to the TWSI tariff even though my calculations reveal a
10 revenue surplus of approximately \$254,000. As I mentioned earlier, there are
11 several issues with how the TWSI books and records have been maintained. As a
12 result, I do not believe that the current state of the books and records of TWSI
13 lend themselves to be relied upon for setting rates.

14 In addition, as I mentioned earlier, there are several instances where the billing
15 rates of TWSI do not match the tariff. This makes it extremely difficult to
16 determine exactly how much of a change in revenue will result from any change
17 to a particular rate. Until these issues are adequately addressed, no rate changes
18 should be considered. As a result, I am recommending that the Commission keep
19 the present TWSI rate structure even though my own calculations show that a rate
20 reduction of approximately \$254,000 is in order.

21
22 **Q20. HOW DO YOU RECOMMEND THAT THE COMMISSION ADDRESS**
23 **THE BILLING ISSUES THAT YOU HAVE OUTLINED?**

1 A20. The commercial billing errors and credit card convenience fee surcharges that I
2 discussed earlier are serious and need to be resolved expeditiously. I believe that
3 the only resolution for these billing issues is through a Commission Staff
4 compliance audit of TWSI's billing practices. Further, I do not believe that the
5 Commission should consider any rate adjustment for TWSI until this compliance
6 audit is complete.

7

8 ***Q21. DOES THIS COMPLETE YOUR TESTIMONY?***

9 ***A21.*** Yes, it does. However, I reserve the right to incorporate any new data that may
10 subsequently become available.

PETITION OF TENNESSEE
 WASTEWATER SYSTEMS, INC., FOR
 APPROVAL OF ADJUSTMENT OF ITS
 RATES AND NEW TARIFF

Docket No. 16-00139

EXHIBITS AND WORKPAPERS

May 24, 2017

Tennessee Wastewater Systems
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For the 12 Months Ending December 31, 2018

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Tennessee Wastewater Systems
Results of Operations - Operating Margin Method
For the 12 Months Ending December 31, 2018

Line No.		CAPD
1	Total Operating Expenses	\$ 2,348,670 A/
2	Fair Operating Margin	6.50% B/
3	Required Operating Income	\$ 152,664
4	Less Operating Income at Current Rates	309,934 A/
5	Operating Income Deficiency/(Surplus)	\$ -157,270
6	Gross Revenue Conversion Factor	1.617723 C/
7	Revenue Deficiency/(Surplus)	\$ -254,420

A/ CAPD Exhibit, Schedule 2.
B/ Proposed Operating Margin.
C/ CAPD Exhibit, Schedule 11.

Tennessee Wastewater Systems
Income Statement at Current Rates
For the 12 Months Ending December 31, 2018

Line No.		Test Period	Adjustments	Attrition Period
1	Revenues	\$ <u>2,039,720</u> A/	\$ <u>618,884</u>	\$ <u>2,658,604</u> A/
	Expenses:			
2	Operating Expenses	\$ 946,289 B/	\$ 147,102	\$ 1,093,391 B/
3	Contractual Services	402,047 C/	-10,074	391,973 C/
4	Administrative & General Expenses	402,048 D/	-26,914	375,134 D/
5	Miscellaneous Expenses	109,894 E/	-3,567	106,327 E/
6	Taxes Other Than Income Expenses	156,128 F/	13,773	169,901 F/
7	Non-Utility Expenses	29,246 G/	-9,611	19,636 G/
8	State & Federal Income Tax Expenses	0 H/	192,309	192,309 H/
9	Total Expenses	\$ <u>2,045,652</u>	\$ <u>303,019</u>	\$ <u>2,348,670</u>
10	Net Operating Income	\$ <u>-5,932</u>	\$ <u>315,865</u>	\$ <u>309,934</u>

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
Revenues**
For the 12 Months Ending December 31, 2018

Line No.		Test Period Adjustments	Attr. Period Adjustments	Attrition Period
1	Residential	\$ 407,462	789,741	\$ 1,197,203
2	Commercial	337,739	738,687	1,076,426
3	Sewer Access Fees	198,628	-5,710	192,918
4	Operations & Maintenance	831,932	-831,932	0
5	Billing & Collecting	50,159	-50,159	0
6	Bonding	39,228	-39,228	0
7	Franchise Income	2,582	-2,582	0
8	Bioxide	902	-902	0
9	Late Payment	16,403	-1,586	14,817
10	Developer Subsidy	151,030	24,230	175,260
11	Miscellaneous	<u>3,655</u>	<u>-1,675</u>	<u>1,980</u>
12	Total Revenues	\$ <u>2,039,720</u>	\$ <u>618,884</u>	\$ <u>2,658,604</u>

SOURCE: CPAD Revenue Workpapers.

Tennessee Wastewater Systems
Operating & Maintenance Expense
For the 12 Months Ending December 31, 2018

Line No.		Test Period	Adjustments	Attrition Amount
1	Salary & Wages Expense - Employees	\$ 450,488	\$ 122,681	\$ 573,169
2	Salary & Wages Expense - Officers	875	-342	533
3	Life Insurance Expense	1,917	-11	1,906
4	Worker's Compensation Expense	16,100	3,256	19,356
5	IRA Contribution Expense	6,321	-759	5,562
6	Purchased Wastewater Treatment Expense	107,923	4,939	112,862
7	Purchased Power Expense	132,976	-8,573	124,403
8	Telemetry Monitoring Expense	157,838	-31,425	126,413
9	Bioxide Expense	3,882	-3,882	0
10	Materials & Supplies Expense	<u>67,969</u>	<u>61,217</u>	<u>129,186</u>
11	Total Operation & Maintenance Expense	<u>\$ 946,289</u>	<u>\$ 147,102</u>	<u>\$ 1,093,391</u>

SOURCE: CPAD Operating & Maintenance Expense Workpapers.

Tennessee Wastewater Systems
Contractual Services Expense
For the 12 Months Ending December 31, 2018

Line No.		Test Period	Adjustments	Attrition Amount
1	Professional	\$ 48,271	\$ 89,987	\$ 138,258
2	Testing	12,305	186	12,491
3	Maintenance	48,724	-16,756	31,968
4	Service	376	0	376
5	Lawn Maintenance	21,890	-9,412	12,478
6	One-Call	5,519	-1,772	3,747
7	Management Fees	223,460	-72,306	151,154
8	IT Support	<u>41,502</u>	<u>0</u>	<u>41,502</u>
9	Total Contractual Services Expense	\$ <u>402,047</u>	\$ <u>-10,074</u>	\$ <u>391,973</u>

SOURCE: CPAD Contractual Services Expense Workpapers.

Tennessee Wastewater Systems
Administrative & General Expense
For the 12 Months Ending December 31, 2018

Line No.		Test Period	Adjustments	Attrition Amount
1	Rent	\$ 60,945	\$ 0	\$ 60,945
2	Registration Renewal	288	601	889
3	Fuel Expense	37,055	-935	36,120
4	Vehicle Maintenance	30,197	-1,628	28,569
5	Insurance	17,744	0	17,744
6	Regulatory Commission Expense	10,182	-1,575	8,607
7	Depreciation Expense	111,638	0	111,638
8	Letter of Credit Fees	43,710	0	43,710
9	Interest Expense	13,237	-1,561	11,677
10	Licenses & Permits	77,052	-32,686	44,367
11	Uncollectible Expense	<u>0</u>	<u>10,869</u>	<u>10,869</u>
12	Total Administrative & General Expense	\$ <u>402,048</u>	\$ <u>-26,914</u>	\$ <u>375,134</u>

SOURCE: CPAD Administrative & General Expense Workpapers.

Tennessee Wastewater Systems
Miscellaneous Expense
For the 12 Months Ending December 31, 2018

Line No.		Test Period	Adjustments	Attrition Amount
1	Website & Internet Hosting	\$ 10,950	\$ 2,167	\$ 13,117
2	Equipment Maintenance	6,227	0	6,227
3	Equipment Rental	5,754	-2,107	3,647
4	Small Equipment Purchases	47,141	-3,314	43,827
5	Telephone	13,241	-502	12,740
6	Office Supplies	435	0	435
7	Postage	8,666	-309	8,358
8	Software Licenses	12,630	328	12,958
9	Membership Dues	690	0	690
10	Franchise Fees	2,580	-37	2,543
11	Billing Costs	720	120	840
12	Other	<u>860</u>	<u>87</u>	<u>947</u>
13	Total Miscellaneous Expense	\$ <u>109,894</u>	\$ <u>-3,737</u>	\$ <u>106,327</u>

SOURCE: CPAD Miscellaneous Expense Workpapers.

Tennessee Wastewater Systems
Taxes Other Than Income Tax Expense
For the 12 Months Ending December 31, 2018

Line No.		Test Period	Adjustments	Attrition Amount
1	Property Taxes	\$ 77,933	\$ 0	\$ 77,933
2	Franchise & Excise Taxes	40,240	6,705	46,945
3	Payroll Taxes	37,955	7,068	45,023
4	Total Taxes Other Than Income Tax Expense	\$ 156,128	\$ 13,773	\$ 169,901

SOURCE: CPAD Other Tax Expense Workpapers.

Tennessee Wastewater Systems
Non-Utility Expense
For the 12 Months Ending December 31, 2018

Line No.		Test Period	Adjustments	Attrition Amount
1	Lodging	\$ 265	\$ 50	\$ 315
2	Meals & Entertainment	2,773	-186	2,588
3	Dues & Subscriptions	939	0	939
4	Banking & NSF Fees	5,378	160	5,538
5	Miscellaneous	3,182	-1,280	1,903
6	Construction	16,709	-8,355	8,355
7	Total Non-Utility Expense	\$ 29,246	\$ -9,611	\$ 19,636

SOURCE: CPAD Non-Utility Expense Workpapers.

Tennessee Wastewater Systems
Income Tax Expense at Current Rates
For the 12 Months Ending December 31, 2018

Line No.		Tax Rate	Attrition Period
1	Revenues		\$ <u>2,658,604</u> A/
	Operating Expenses:		
2	Operating Expenses		\$ 1,093,391 A/
3	Contractual Services		391,973 A/
4	Administrative & General Expenses		375,134 A/
5	Miscellaneous Expenses		106,327 A/
6	Taxes Other Than Income Expense		169,901 A/
7	Non-Utility Expenses		<u>19,636</u> A/
8	Total Operating Expenses		\$ <u>2,156,362</u>
9	Income before Tennessee Excise and Federal Income Tax Expense		\$ <u>502,242</u>
10	Tennessee Excise Tax	6.50%	\$ <u>32,646</u>
11	Income Before Federal Income Tax Expense		\$ <u>469,597</u>
	Federal Income Tax		
12	\$0 - \$50,000	15.00%	\$ 7,500
13	\$50,001 - \$75,000	25.00%	6,250
14	\$75,001 - \$100,000	34.00%	8,500
15	\$100,001 - \$335,000	39.00%	91,650
16	\$335,001 - \$10,000,000	34.00%	45,763
17	Total Federal Income Tax	<u>34.00%</u>	\$ <u>159,663</u>
18	Net Income		\$ <u>309,934</u>
19	Total Tennessee Excise and Federal Income Tax Expense		\$ <u>192,309</u>

A/ CPAD Exhibit, Schedule 2.

Tennessee Wastewater Systems
Revenue Conversion Factor
For the 12 Months Ending December 31, 2018

Line No.		<u>Amount</u>	<u>Balance</u>
1	Operating Revenues		1.000000
2	Add: Forfeited Discounts	0.006517 A/	<u>0.006517</u>
3	Balance		1.006517
4	Uncollectible Expense Ratio	0.004781 B/	<u>0.004812</u>
5	Balance		1.001705
6	State Excise Tax	0.065000 C/	<u>0.065111</u>
7	Balance		0.936594
8	Federal Income Tax	0.340000 D/	<u>0.318442</u>
9	Balance		<u>0.618152</u>
10	Revenue Conversion Factor (Line 1 / Line 9)		<u><u>1.617723</u></u>

A/ Forfeited Discounts	14,817	Schedule 3.
Residential & Commercial Revenue	<u>2,273,629</u>	Schedule 3.
Forfeited Discount Ratio	<u><u>0.006517</u></u>	

B/ Bad Debt Expense	10,869	Schedule 6.
Residential & Commercial Revenue	<u>2,273,629</u>	Schedule 3.
Uncollectible Expense Ratio	<u><u>0.004781</u></u>	

C/ State Excise Tax Rate of 6.50% based upon total revenue increase above \$0 income.

D/ Effective tax rate per Schedule 10.

Tennessee Wastewater Systems
Revenue Workpapers
For the 12 Months Ending December 31, 2018

Line No.		2010	2011	2012	2013	2014	2015	2016	Average Period	Attrition Amount
1	Residential <i>Cumulative Amounts</i>	300,287 2,394,517	303,873 2,094,230	333,238 1,790,357	322,545 1,457,119	353,371 1,134,574	373,741 781,203	407,462 407,462	Priceout	1,197,203 A/
2	Commercial <i>Cumulative Amounts</i>	308,384 2,049,383	296,552 1,740,999	278,302 1,444,447	270,642 1,166,145	267,014 895,503	290,750 628,489	337,739 337,739	Priceout	1,076,426 B/
3	Sewer Access Fees <i>Cumulative Amounts</i>	199,700 1,360,917	169,254 1,161,217	208,212 991,963	204,997 783,751	197,208 578,754	182,918 381,546	198,628 198,628	3	192,918
4	Operations & Maintenance <i>Cumulative Amounts</i>	545,890 4,779,336	591,960 4,233,446	666,496 3,641,486	681,767 2,974,990	704,369 2,293,223	756,922 1,588,854	831,932 831,932	Elimination	0
5	Billing & Collecting <i>Cumulative Amounts</i>	42,002 295,919	37,256 253,917	38,631 216,661	40,171 178,030	40,754 137,859	46,946 97,105	50,159 50,159	Elimination	0
6	Bonding <i>Cumulative Amounts</i>	11,959 228,808	12,630 216,849	11,683 204,219	48,172 192,536	61,332 144,364	43,804 83,032	39,228 39,228	Elimination	0
7	Franchise Income <i>Cumulative Amounts</i>	2,265 16,934	2,398 14,669	2,403 12,271	2,305 9,868	2,479 7,563	2,502 5,084	2,582 2,582	Elimination	0
8	Bioxide <i>Cumulative Amounts</i>	-1,013 24,078	-4,994 25,091	1,415 30,085	9,633 28,670	7,611 19,037	10,524 11,426	902 902	Elimination	0
9	Late Payment <i>Cumulative Amounts</i>	20,037 116,158	16,115 96,121	18,688 80,006	16,867 61,318	13,832 44,451	14,216 30,619	16,403 16,403	3	14,817
10	Developer Subsidy <i>Cumulative Amounts</i>	12,800 902,080	2,400 889,280	227,800 886,880	133,300 659,080	65,200 525,780	309,550 460,580	151,030 151,030	3	175,260
11	Miscellaneous <i>Cumulative Amounts</i>	0 3,655	0 3,655	0 3,655	0 3,655	0 3,655	0 3,655	3,655 3,655	Priceout	1,980 C/
12	Total Revenues	1,442,311	1,427,444	1,786,868	1,730,399	1,713,170	2,031,873	2,039,720		2,658,604

Source: CPAD Data Request 2-2 to 2-14.

- A/ CPAD Residential Revenue Priceout Workpaper.
B/ CPAD Commercial Revenue Priceout Workpaper.
C/ CPAD Miscellaneous Revenue Priceout Workpaper.

Tennessee Wastewater Systems
Operating & Maintenance Expense Workpaper
For the 12 Months Ending December 31, 2018

Line No.		2010	2011	2012	2013	2014	2015	2016	Average Period	Attrition Amount
1	Salary & Wages Expense - Employees	0	0	0	0	239,588	516,024	450,488	Priceout	573,169 <i>A/</i>
	<i>Cumulative Amounts</i>	1,206,100	1,206,100	1,206,100	1,206,100	1,206,100	966,512	450,488		
2	Salary & Wages Expense - Officers	0	0	0	0	187	537	875	3	533
	<i>Cumulative Amounts</i>	1,599	1,599	1,599	1,599	1,599	1,412	875		
3	Life Insurance Expense	0	0	0	0	1,403	2,399	1,917	3	1,906
	<i>Cumulative Amounts</i>	5,719	5,719	5,719	5,719	5,719	4,316	1,917		
4	Worker's Compensation Expense	0	0	0	0	19,787	1,354	16,100	Priceout	19,356 <i>A/</i>
	<i>Cumulative Amounts</i>	37,241	37,241	37,241	37,241	37,241	17,454	16,100		
5	IRA Contribution Expense	0	0	0	0	1,782	5,966	6,321	Priceout	5,562 <i>A/</i>
	<i>Cumulative Amounts</i>	14,068	14,068	14,068	14,068	14,068	12,287	6,321		
6	Purchased Wastewater Treatment Expense	111,892	99,492	136,839	112,918	115,073	105,897	107,923	7	112,862
	<i>Cumulative Amounts</i>	790,034	678,142	578,650	441,811	328,893	213,820	107,923		
7	Purchased Power Expense	37,124	38,843	61,113	94,039	121,791	118,441	132,976	3	124,403
	<i>Cumulative Amounts</i>	604,327	567,203	528,360	467,247	373,208	251,417	132,976		
8	Telemetry Monitoring Expense	21,165	19,568	37,633	64,378	97,229	124,173	157,838	3	126,413
	<i>Cumulative Amounts</i>	521,984	500,819	481,251	443,618	379,240	282,011	157,838		
9	Bioxide Expense	0	0	17,267	0	0	0	3,882	Pass-Thru	0
	<i>Cumulative Amounts</i>	21,149	21,149	21,149	3,882	3,882	3,882	3,882		
10	Materials & Supplies Expense	3,097	0	92,077	1,520	140,190	179,399	67,969	3	129,186
	<i>Cumulative Amounts</i>	484,252	481,155	481,155	389,078	387,558	247,368	67,969		
11	Total Operation & Maintenance Expense	173,278	157,903	344,929	272,855	737,030	1,054,190	946,289		1,093,391

Source: CPAD Data Request 2-15 to 2-24.

A/ CPAD Salary & Wage Priceout Workpaper.

Tennessee Wastewater Systems
Contractual Services Expense Workpaper
For the 12 Months Ending December 31, 2018

Line No.		2010	2011	2012	2013	2014	2015	2016	Average Period	Attrition Amount
1	Professional	26,691	55,460	0	100,534	110,435	256,068	48,271	3	138,258
	<i>Cumulative Amounts</i>	597,459	570,768	515,308	515,308	414,774	304,339	48,271		
2	Testing	745	150	0	0	3,925	12,677	12,305	2	12,491
	<i>Cumulative Amounts</i>	29,802	29,057	28,907	28,907	28,907	24,982	12,305		
3	Maintenance	546,885	590,506	922,352	846,590	387,211	15,212	48,724	2	31,968
	<i>Cumulative Amounts</i>	3,357,480	2,810,595	2,220,089	1,297,737	451,147	63,936	48,724		
4	Service	0	0	90	5,460	6,143	22,352	376	1	376
	<i>Cumulative Amounts</i>	34,421	34,421	34,421	34,331	28,871	22,728	376		
5	Lawn Maintenance	6,910	8,705	6,715	2,605	19,575	20,947	21,890	7	12,478
	<i>Cumulative Amounts</i>	87,347	80,437	71,732	65,017	62,412	42,837	21,890		
6	One-Call	2,178	2,564	2,279	5,122	2,552	3,169	5,519	3	3,747
	<i>Cumulative Amounts</i>	23,383	21,205	18,641	16,362	11,240	8,688	5,519		
7	Management Fees	218,560	139,859	68,274	109,993	81,213	148,788	223,460	3	151,154
	<i>Cumulative Amounts</i>	990,147	771,587	631,728	563,454	453,461	372,248	223,460		
8	IT Support	0	0	0	0	0	0	41,502	1	41,502
	<i>Cumulative Amounts</i>	41,502	41,502	41,502	41,502	41,502	41,502	41,502		
9	Total Contractual Services Expense	801,969	797,244	999,710	1,070,304	611,054	479,213	402,047		391,973

Source: CPAD Data Request 2-27 to 2-39.

Tennessee Wastewater Systems
Administrative & General Expense Workpapers
For the 12 Months Ending December 31, 2018

Line No.		2010	2011	2012	2013	2014	2015	2016	Average Period	Attrition Amount
1	Rent	7,333	13,890	6,945	6,945	44,945	60,945	60,945	2	60,945
	<i>Cumulative Amounts</i>	201,948	194,615	180,725	173,780	166,835	121,890	60,945		
2	Registration Renewal	0	0	0	0	118	1,489	288	2	889
	<i>Cumulative Amounts</i>	1,895	1,895	1,895	1,895	1,895	1,777	288		
3	Fuel Expense	0	0	0	0	20,045	35,185	37,055	2	36,120
	<i>Cumulative Amounts</i>	92,285	92,285	92,285	92,285	92,285	72,240	37,055		
4	Vehicle Maintenance	0	0	0	0	4,553	26,941	30,197	2	28,569
	<i>Cumulative Amounts</i>	61,691	61,691	61,691	61,691	61,691	57,138	30,197		
5	Insurance	335	366	231	641	3,031	11,784	17,744	1	17,744
	<i>Cumulative Amounts</i>	34,132	33,797	33,431	33,200	32,559	29,528	17,744		
6	Regulatory Commission Expense	5,395	5,608	5,583	6,057	6,788	7,032	10,182	2	8,607
	<i>Cumulative Amounts</i>	46,645	41,250	35,642	30,059	24,002	17,214	10,182		
7	Depreciation Expense	1,533	1,219	1,219	1,219	12,620	56,997	111,638	1	111,638
	<i>Cumulative Amounts</i>	186,445	184,912	183,693	182,474	181,255	168,635	111,638		
8	Letter of Credit Fees	6,735	52,165	60,573	47,243	45,037	43,710	43,710	2	43,710
	<i>Cumulative Amounts</i>	299,173	292,438	240,273	179,700	132,457	87,420	43,710		
9	Interest Expense	4,335	2,294	761	0	192	10,116	13,237	2	11,677
	<i>Cumulative Amounts</i>	30,935	26,600	24,306	23,545	23,545	23,353	13,237		
10	Licenses & Permits	14,470	34,150	35,250	42,484	38,762	11,681	77,052	2	44,367
	<i>Cumulative Amounts</i>	253,849	239,379	205,229	169,979	127,495	88,733	77,052		
11	Uncollectible Expense	15,345	7,634	2,998	8,413	2,908	38,787	0	7	10,869
	<i>Cumulative Amounts</i>	76,085	60,740	53,106	50,108	41,695	38,787	0		
12	Total Administrative & General Expense	55,481	117,326	113,560	113,002	178,999	304,667	402,048		375,134

Source: CPAD Data Request 2-40 to 2-47, 2-53, 2-54, 2-57 and 2-94.

Tennessee Wastewater Systems
Miscellaneous Expense Workpapers
For the 12 Months Ending December 31, 2018

Line No.		2010	2011	2012	2013	2014	2015	2016	Average Period	Attrition Amount
1	Website & Internet Hosting <i>Cumulative Amounts</i>	0 26,234	0 26,234	0 26,234	0 26,234	0 26,234	15,284 26,234	10,950 10,950	2	13,117
2	Equipment Maintenance <i>Cumulative Amounts</i>	0 7,225	0 7,225	0 7,225	0 7,225	163 7,225	835 7,062	6,227 6,227	1	6,227
3	Equipment Rental <i>Cumulative Amounts</i>	0 12,903	0 12,903	0 12,903	0 12,903	5,609 12,903	1,540 7,294	5,754 5,754	2	3,647
4	Small Equipment Purchases <i>Cumulative Amounts</i>	0 90,701	0 90,701	0 90,701	0 90,701	3,047 90,701	40,513 87,654	47,141 47,141	2	43,827
5	Telephone <i>Cumulative Amounts</i>	497 30,731	0 30,234	0 30,234	1,013 30,234	3,742 29,221	12,238 25,479	13,241 13,241	2	12,740
6	Office Supplies <i>Cumulative Amounts</i>	0 435	0 435	0 435	0 435	0 435	0 435	435 435	1	435
7	Postage <i>Cumulative Amounts</i>	4,595 28,899	3,728 24,304	0 20,576	0 20,576	3,861 20,576	8,049 16,715	8,666 8,666	2	8,358
8	Software Licenses <i>Cumulative Amounts</i>	0 35,315	0 35,315	0 35,315	0 35,315	9,400 35,315	13,285 25,915	12,630 12,630	2	12,958
9	Membership Dues <i>Cumulative Amounts</i>	105 10,729	440 10,624	440 10,184	3,590 9,744	680 6,154	4,784 5,474	690 690	1	690
10	Franchise Fees <i>Cumulative Amounts</i>	2,279 17,073	2,390 14,794	2,405 12,404	2,449 9,999	2,464 7,550	2,506 5,086	2,580 2,580	2	2,543
11	Billing Costs <i>Cumulative Amounts</i>	2,884 9,063	960 6,179	2,099 5,219	480 3,120	960 2,640	960 1,680	720 720	2	840
12	Other <i>Cumulative Amounts</i>	1,320 36,733	13,000 35,413	10,400 22,413	9,400 12,013	720 2,613	1,033 1,893	860 860	2	947
13	Total Miscellaneous Expense	11,680	20,518	15,344	16,932	30,646	101,027	109,894		106,327

Source: CPAD Data Request 2-48 to 2-52, 2-55 to 2-56, and 2-76 to 2-81.

Tennessee Wastewater Systems
Taxes Other Than Income Tax Expense Workpapers
For the 12 Months Ending December 31, 2018

Line No.		2010	2011	2012	2013	2014	2015	2016	Average Period	Attrition Amount
1	Property Taxes	56,733	75,451	64,537	65,555	58,787	51,983	77,933	1	77,933
	<i>Cumulative Amounts</i>	450,979	394,246	318,795	254,258	188,703	129,916	77,933		
2	Franchise & Excise Taxes	80,704	64,839	48,824	95,096	37,427	53,650	40,240	2	46,945
	<i>Cumulative Amounts</i>	420,780	340,076	275,237	226,413	131,317	93,890	40,240		
3	Payroll Taxes	0	0	0	0	19,089	42,459	37,955	Priceout	45,023 <i>A/</i>
	<i>Cumulative Amounts</i>	99,503	99,503	99,503	99,503	99,503	80,414	37,955		
4	Total Other Taxes Expense	137,437	140,290	113,361	160,651	115,303	148,092	156,128		169,901

Source: CPAD Data Request 2-82 to 2-84.

A/ CPAD Salary & Wage Priceout Workpaper.

Tennessee Wastewater Systems
Non-Utility Expense Workpapers
For the 12 Months Ending December 31, 2018

Line No.		2010	2011	2012	2013	2014	2015	2016	Average Period	Attrition Amount
1	Lodging	0	0	0	0	0	364	265	2	315
	<i>Cumulative Amounts</i>	629	629	629	629	629	629	265		
2	Meals & Entertainment	0	0	0	0	844	2,402	2,773	2	2,588
	<i>Cumulative Amounts</i>	6,019	6,019	6,019	6,019	6,019	5,175	2,773		
3	Dues & Subscriptions	1,000	123	0	390	3,840	7,050	939	1	939
	<i>Cumulative Amounts</i>	13,342	12,342	12,219	12,219	11,829	7,989	939		
4	Banking & NSF Fees	4,446	6,929	7,018	6,191	3,112	5,697	5,378	2	5,538
	<i>Cumulative Amounts</i>	38,771	34,325	27,396	20,378	14,187	11,075	5,378		
5	Miscellaneous	11,200	0	0	244	350	623	3,182	2	1,903
	<i>Cumulative Amounts</i>	15,599	4,399	4,399	4,399	4,155	3,805	3,182		
6	Construction	0	0	0	0	0	0	16,709	2	8,355
	<i>Cumulative Amounts</i>	16,709	16,709	16,709	16,709	16,709	16,709	16,709		
7	Total Non-Utility Expense	16,646	7,052	7,018	6,825	8,146	16,136	29,246		19,636

Source: CPAD Data Request 2-87 to 2-93.

TENNESSEE WASTEWATER SYSTEMS

WP-8

Revenue Priceout - Residential Summary

	2016 Test Period	Growth Adjustment	2018 Attr Period
Rate 1:			
Regular Bills	18,238	4,389	22,627
Cabin Bills	496	-200	296
Total Bills	18,734	4,189	22,923
Net Base Rate	\$44.15	\$44.15	\$44.15
Rate 1 Base Revenue	\$827,085.79	\$184,947.88	\$1,012,033.67
Rate 2:			
Total Bills	378	28	406
Net Base Rate	\$44.15	\$44.15	\$44.15
Rate 2 Base Revenue	\$16,688.70	\$1,236.20	\$17,924.90
Rate 5:			
Total Bills	825	120	945
Net Base Rate	\$39.14	\$39.14	\$39.14
Rate 5 Base Revenue	\$32,290.50	\$4,696.80	\$36,987.30
Rate 6:			
Total Bills	1,800	90	1,890
Net Base Rate	\$39.14	\$39.14	\$39.14
Rate 6 Base Revenue	\$70,452.00	\$3,522.60	\$73,974.60
Rate 9:			
Total Bills	2,359	-8	2,351
Net Base Rate	\$23.94	\$23.94	\$23.94
Rate 9 Base Revenue	\$56,474.46	-\$191.52	\$56,282.94
Total Residential Revenues	\$1,002,991.45	\$194,211.96	\$1,197,203.41
Total Residential Bills	24,096	4,419	28,515

TENNESSEE WASTEWATER SYSTEMS
Revenue Priceout - Commercial Revenues

WP-9

	Middle TN Bills	East TN Bills	Total Bills	Net Base Rate	Revenue
Commercial Without Food Rates:					
Tier 1 (0 - 300 GPD)	168	156	324	\$102.15	\$33,097
Tier 2.1 (301 - 400 GPD)	0	0	0	122.60	0
Tier 2.2 (401 - 500 GPD)	36	0	36	143.05	5,150
Tier 2.3 (501 - 600 GPD)	12	0	12	163.50	1,962
Tier 2.4 (601 - 700 GPD)	0	0	0	183.95	0
Tier 2.5 (701 - 800 GPD)	0	0	0	204.40	0
Tier 2.6 (801 - 900 GPD)	0	0	0	224.85	0
Tier 2.7 (901 - 1,000 GPD)	12	0	12	245.30	2,944
Tier 3.1 (1,001 - 2,000 GPD)	0	0	0	403.25	0
Tier 3.2 (2,001 - 3,000 GPD)	0	0	0	561.20	0
Tier 3.3 (3,001 - 4,000 GPD)	0	0	0	719.15	0
Each Additional Tier	0	0	0	156.74	0
Unknown 1.1	12		12	1,745.83	20,950
Unknown 1.2	24		24	261.10	6,266
Unknown 1.3	12		12	194.18	2,330
Unknown 1.4	12		12	141.29	1,695
Unknown 2.1		12	12	162.13	1,946
Unknown 2.2		12	12	352.92	4,235
Unknown 2.3		12	12	345.01	4,140
Unknown 2.4		12	12	222.00	2,664
Unknown 2.5		12	12	658.64	7,904
Total	288	216	504		\$95,283

Commercial With Food Rates:					
Tier 1 (0 - 300 GPD)	0	48	48	\$136.15	\$6,535
Tier 2.1 (301 - 400 GPD)	12	0	12	160.65	1,928
Tier 2.2 (401 - 500 GPD)	24	0	24	185.15	4,444
Tier 2.3 (501 - 600 GPD)	0	0	0	209.65	0
Tier 2.4 (601 - 700 GPD)	0	0	0	234.15	0
Tier 2.5 (701 - 800 GPD)	24	0	24	258.65	6,208
Tier 2.6 (801 - 900 GPD)	0	0	0	283.15	0
Tier 2.7 (901 - 1,000 GPD)	0	0	0	307.65	0
Tier 3.1 (1,001 - 2,000 GPD)	0	12	12	501.00	6,012
Tier 3.2 (2,001 - 3,000 GPD)	0	12	12	694.35	8,332
Tier 3.3 (3,001 - 4,000 GPD)	0	0	0	887.70	0
Each Additional Tier	0	0	0	192.21	0
Unknown 3.1	36		36	1,854.45	66,760
Unknown 3.2	12		12	102.15	1,226
Unknown 3.3	12		12	578.35	6,940
Unknown 3.4	12		12	1,158.39	13,901
Unknown 3.5	12		12	462.33	5,548
Unknown 3.6	12		12	8,982.65	107,792
Unknown 3.7	12		12	1,968.76	23,625
Unknown 3.8	12		12	5,612.40	67,349
Total	180	72	252		\$326,600

Commercial Cabin Rates:					
Tier 1 (0 - 300 GPD)			8,652	\$69.15	\$598,285.80
Tier 2.1 (301 - 400 GPD)			0	84.15	0.00
Tier 2.2 (401 - 500 GPD)			0	99.15	0.00
Tier 2.3 (501 - 600 GPD)			0	114.15	0.00
Tier 2.4 (601 - 700 GPD)			0	129.15	0.00
Tier 2.5 (701 - 800 GPD)			0	144.15	0.00
Tier 2.6 (801 - 900 GPD)			0	159.15	0.00
Tier 2.7 (901 - 1,000 GPD)			0	174.15	0.00
Tier 3.1 (1,001 - 2,000 GPD)			0	332.11	0.00
Unknown (48 Accounts)				97.67	56,256.77
Total			9,228		\$654,542.57

Total Commercial Revenue**\$1,076,425.57**

TENNESSEE WASTEWATER SYSTEMS

WP-10

Revenue Priceout - Miscellaneous Revenue

	2015 Determinants	2016 Determinants	Average Determinants	Tariff Rate	Attrition Revenue
Disconnection Revenue:					
East Tennessee	13	15	14	\$40.00	\$560.00
Middle Tennessee	15	11	13	40.00	520.00
Total Disconnection Revenue	28	26	27		\$1,080.00

Reconnection Revenue:					
East Tennessee	10	8	9	\$50.00	\$450.00
Middle Tennessee	9	3	6	50.00	300.00
Total Reconnection Revenue	19	11	15		\$750.00

Convenience Fee Revenue:	2015 Amount	2016 Amount	Average Amount	Attrition Amount
Month				
January	\$486.30	\$463.88	\$475.09	\$0.00
February	397.15	460.18	428.67	0.00
March	475.67	461.81	468.74	0.00
April	374.50	466.60	420.55	0.00
May	458.87	493.64	476.26	0.00
June	457.16	488.10	472.63	0.00
July	451.13	649.59	550.36	0.00
August	466.91	475.69	471.30	0.00
September	405.54	544.05	474.80	0.00
October	413.12	538.38	475.75	0.00
November	459.85	545.29	502.57	0.00
December	503.67	650.22	576.95	0.00
Total	\$5,349.87	\$6,237.43	\$5,793.65	\$0.00

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

	2015 Determinants	2016 Determinants	Average Determinants	Tariff Rate	Attrition Revenue
Returned Check Revenue:					
East Tennessee	4	3	4	25.00	\$87.50
Middle Tennessee	3	2	3	25.00	62.50
Total Returned Check Revenue	7	5	6		\$150.00

Total Miscellaneous Revenue **\$1,980.00**

OFFICE OF THE ATTORNEY GENERAL - STATE OF TENNESSEE
CONSUMER PROTECTION AND ADVOCATE DIVISION
SALARY EXPENSE SUMMARY
TENNESSEE WASTEWATER SYSTEMS, INC.
FOR THE ATTRITION YEAR ENDED DECEMBER 31, 2018

Position	Location	A/ 2016 TWSI	B/ 2016 Recorded pay TWSI register	C/ 2016 Labor & Workforce Development	D/ 2016 Response to CPAD DR 1-36	2016 CPAD	2016 CPAD	E/ 2017 CPAD	2017 Pro Forma	F/ 2018 CPAD	2018 Pro Forma	G/ IRA Contribution Percent	IRA Contribution Amount	Workers Compensation Rate	Workers Compensation Amount	FUI Tax Amount	H/ SUI Tax Amount	I/ FICA Tax Amount
		stated pay			Adjustments	Payroll Expense		Adjustments	Base Pay	Adjustments	Base Pay							
Operator 1	Middle TN	\$ 47,000	\$ 46,938	\$ 46,938	\$ 46,938	\$ 62.00	\$ 47,000.00	\$ 1,410	\$ 48,410	\$ 1,452	\$ 49,862.00	0%	\$ -	4.22%	\$ 2,104	\$ 42	\$ 56	\$ 3,814
Operator 2	Middle TN	\$ 53,000	\$ 48,828	\$ 52,905	\$ 52,905	\$ 1,454.00	\$ 53,000.00	\$ 1,590	\$ 54,590	\$ 1,638	\$ 56,228.00	0%	\$ -	4.22%	\$ 2,373	\$ 42	\$ 56	\$ 4,301
Operator 3	Middle TN	\$ 55,000	\$ 54,938	\$ 54,938	\$ 54,938	\$ 62.00	\$ 55,000.00	\$ 1,650	\$ 56,650	\$ 1,700	\$ 58,350.00	3%	\$ 1,751	4.22%	\$ 2,462	\$ 42	\$ 56	\$ 4,464
Accountant	Middle TN	\$ 42,000	\$ 41,736	\$ 41,938	\$ 41,938	\$ 129.00	\$ 42,000.00	\$ 1,260	\$ 43,260	\$ 1,298	\$ 44,558.00	3%	\$ 1,337	0.19%	\$ 85	\$ 42	\$ 56	\$ 3,409
Receptionist	Middle TN	\$ 36,000	\$ 38,240	\$ 38,579	\$ 38,579	\$ (2,466.00)	\$ 36,000.00	\$ 1,080	\$ 37,080	\$ 1,112	\$ 38,192.00	3%	\$ 1,146	0.19%	\$ 73	\$ 42	\$ 56	\$ 2,922
Customer Service	Middle TN	\$ 35,000	\$ 34,327	\$ 35,000	\$ 35,000	\$ 224.00	\$ 35,000.00	\$ 1,050	\$ 36,050	\$ 1,082	\$ 37,132.00	0%	\$ -	0.19%	\$ 71	\$ 42	\$ 56	\$ 2,841
Mowing	Middle TN	\$ 31,000	\$ 10,620	\$ 10,610	\$ 10,620	\$ 20,383.00	\$ 31,000.00	\$ 930	\$ 31,930	\$ 958	\$ 32,888.00	0%	\$ -	4.22%	\$ 1,388	\$ 42	\$ 56	\$ 2,516
Manager	East TN	\$ 60,520	\$ 21,183	\$ 21,183	\$ 21,183	\$ 39,337.00	\$ 60,520.00	\$ 1,816	\$ 62,336	\$ 1,870	\$ 64,206.00	0%	\$ -	4.22%	\$ 2,709	\$ 42	\$ 56	\$ 4,912
Operator 1	East TN	\$ 47,920	\$ 47,920	\$ 47,920	\$ 47,920		\$ 47,920.00	\$ 1,438	\$ 49,358	\$ 1,481	\$ 50,839.00	0%	\$ -	4.22%	\$ 2,145	\$ 42	\$ 56	\$ 3,889
Operator 2	East TN	\$ 35,000	\$ 33,362	\$ 36,150	\$ 36,150	\$ (220.00)	\$ 35,000.00	\$ 8,000	\$ 43,000	\$ 1,290	\$ 44,290.00	3%	\$ 1,329	4.22%	\$ 1,869	\$ 42	\$ 56	\$ 3,388
Operator 3	East TN	\$ 42,400	\$ 42,631	\$ 42,631	\$ 42,631	\$ (231.00)	\$ 42,400.00	\$ 3,000	\$ 45,400	\$ 1,362	\$ 46,762.00	0%	\$ -	4.22%	\$ 1,973	\$ 42	\$ 56	\$ 3,577
Operator 4	East TN	\$ 47,000	\$ 42,262	\$ 45,877	\$ 45,877	\$ 2,328.00	\$ 47,000.00	\$ 1,410	\$ 48,410	\$ 1,452.00	\$ 49,862.00	0%	\$ -	4.22%	\$ 2,104	\$ 42	\$ 56	\$ 3,814
		<u>\$ 531,840</u>	<u>\$ 462,985</u>	<u>\$ 474,670</u>	<u>\$ 474,680</u>	<u>\$ 61,062</u>	<u>\$ 531,840</u>	<u>\$ 24,634</u>	<u>\$ 556,474</u>	<u>\$ 16,695</u>	<u>\$ 573,169</u>		<u>\$ 5,562</u>		<u>\$ 19,356</u>	<u>\$ 504</u>	<u>\$ 672</u>	<u>\$ 43,847</u>

A/ TWSI Exhibit 3 to Petition

B/ Confidential, 2-15b 2016 Salaries & Wages - Employees Details

C/ Tennessee Wastewater Systems-confidential info pdf (document from Labor & Workforce Development)

D/ Response to CPAD DR 1-36

E/ Assumes 3% merit increase and adjustments for exam certifications

F/ Assumes 3% annual cost of living increase

G/ Response to CPAD DR 1-31

H/ <https://www.tn.gov/workforce/article/tui-tax-rates>

I/ 6.2% Social Security + 1.45% Medicare

ATTACHMENT WHN-1

William H. Novak Vitae

William H. Novak

19 Morning Arbor Place
The Woodlands, TX 77381

Phone: 713-298-1760

Email: halnovak@whnconsulting.com

Areas of Specialization

Over thirty-five years of experience in regulatory affairs and forecasting of financial information in the rate setting process for electric, gas, water and wastewater utilities. Presented testimony and analysis for state commissions on regulatory issues in four states and has presented testimony before the FERC on electric issues.

Relevant Experience

WHN Consulting – September 2004 to Present

In 2004, established WHN Consulting to provide utility consulting and expert testimony for energy and water utilities. WHN Consulting is a “complete needs” utility regulation firm able to provide clients with assistance in all areas of utility rate analysis. Since 2004, WHN Consulting has provided assistance to public utility commissions and state consumer advocates in over ten state jurisdictions. Some of the topics and issues that WHN Consulting has presented testimony for include net metering, alternative rate regulation, revenue requirement calculations in rate cases, class cost of service studies, rate design, deferred income tax calculations, purchased gas costs, purchased power costs, and weather normalization studies.

Sequent Energy Management – February 2001 to July 2003

Vice-President of Regulatory Compliance for approximately two years with Sequent Energy Management, a gas trading and optimization affiliate of AGL Resources. In that capacity, directed the duties of the regulatory compliance department, and reviewed and analyzed all regulatory filings and controls to ensure compliance with federal and state regulatory guidelines. Engaged and oversaw the work of a number of regulatory consultants and attorneys in various states where Sequent has operations. Identified asset management opportunities and regulatory issues for Sequent in various states. Presented regulatory proposals and testimony to eliminate wholesale gas rate fluctuations through hedging of all wholesale gas purchases for utilities. Also prepared testimony to allow gas marketers to compete with utilities for the transportation of wholesale gas to industrial users.

Atlanta Gas Light Company – April 1999 to February 2001

Director of Rates and Regulatory Analysis for approximately two years with AGL Resources, a public utility holding company serving approximately 1.9 million customers in Georgia, Tennessee, and Virginia. In that capacity, was instrumental in leading

Atlanta Gas Light Company through the most complete and comprehensive gas deregulation process in the country that involved terminating the utility's traditional gas recovery mechanism and instead allowing all 1.5 million AGL Resources customers in Georgia to choose their own gas marketer. Also responsible for all gas deregulation filings, as well as preparing and defending gas cost recovery and rate filings. Initiated a weather normalization adjustment in Virginia to track adjustments to company's revenues based on departures from normal weather. Analyzed the regulatory impacts of potential acquisition targets.

Tennessee Regulatory Authority – Aug. 1982 to Apr 1999; Jul 2003 to Sep 2004

Employed by the Tennessee Regulatory Authority (formerly the Tennessee Public Service Commission) for approximately 19 years, culminating as Chief of the Energy and Water Division. Responsible for directing the division's compliance and rate setting process for all gas, electric, and water utilities. Either presented analysis and testimony or advised the Commissioners/Directors on policy setting issues, including utility rate cases, electric and gas deregulation, gas cost recovery, weather normalization recovery, and various accounting related issues. Responsible for leading and supervising the purchased gas adjustment (PGA) and gas cost recovery calculation for all gas utilities. Responsible for overseeing the work of all energy and water consultants hired by the TRA for management audits of gas, electric and water utilities. Implemented a weather normalization process for water utilities that was adopted by the Commission and adopted by American Water Works Company in regulatory proceedings outside of Tennessee.

Education

B.A, Accounting, Middle Tennessee State University, 1981

MBA, Middle Tennessee State University, 1997

Professional

Certified Public Accountant (CPA), Tennessee Certificate # 7388

Certified Management Accountant (CMA), Certificate # 7880

Former Vice-Chairman of National Association of Regulatory Utility Commission's Subcommittee on Natural Gas

Witness History for William H. Novak, CPA
Selected Cases

State	Company/Sponsor	Year	Assignment	Docket
Louisiana	CenterPoint Energy/Louisiana PSC	2011	Audit of PGA Filings from 2002 - 2008 of CenterPoint Arkla	S-32534
	CenterPoint Energy/Louisiana PSC	2011	Audit of PGA Filings from 2002 - 2008 of CenterPoint Entex	S-32537
	Louisiana Electric Utilities/Louisiana PSC	2012	Technical Consultant for Impact of Net Meter Subsidy on other Electric Customers	R-31417
Tennessee	Aqua Utilities/Aqua Utilities	2006	Presentation of Rate Case on behalf of Aqua Utilities	06-00187
	Atmos Energy Corporation/Atmos Intervention Group	2007	Rate design for Industrial Intervenor Group	07-00105
	Bristol TN Essential Services/BTES	2009	Audit of Cost Allocation Manual	05-00251
	Chattanooga Manufacturers Association/CMA	2009	Spokesperson for Industrial Natural Gas Users before the Tennessee State Legislature	HB-1349
	Piedmont Natural Gas Company/Tennessee AG	2011	Rate Case Audit - Revenue, Class Cost of Service Study & Rate Design	11-00144
	Tennessee-American Water Company/Tennessee AG	2012	Rate Case Audit - Revenues, Rate Base, Class Cost of Service Study and Rate Design	12-00049
	Tennessee-American Water Company/Tennessee AG	2013-2017	Alternative Regulation - Audit of Budget & True-up Filings, Rate Design	16-00126
	Piedmont Natural Gas Company/Tennessee AG	2013-2017	Alternative Regulation - Audit of Budget & True-up Filings, Rate Design	16-00140
	Piedmont Natural Gas Company/Tennessee AG	2014	Audit of Recovery of Compressed Natural Gas Infrastructure Costs	14-00086
	Piedmont Natural Gas Company/Tennessee AG	2014	Audit of Accumulated Deferred Federal Income Tax	14-00017
	Atmos Energy Corporation/Tennessee AG	2014	Rate Case Audit - Revenues, O&M Expenses, Rate Base and Rate Design	14-00146
	Atmos Energy Corporation/Tennessee AG	2015-2017	Alternative Regulation - Audit of Budget & True-up Filings, Rate Design	16-00105
	B&W Gas Company/B&W	2015	Presentation of Rate Case on behalf of B&W Gas Company	15-00042
	AEP & Kingsport Power/Tennessee AG	2015	Audit of Storm Costs and Rate Recovery	15-00024
	AEP & Kingsport Power/Tennessee AG	2016	Rate Case Audit - Revenue, Rate Base, Class Cost of Service Study & Rate Design	16-00001
Alabama	Jefferson County (Birmingham) Wastewater/Alabama AG	2013	Bankruptcy Filing - Allowable Costs and Rate Design	2009-2318
Illinois	Peoples & North Shore Gas Cos./Illinois Commerce Comm.	2007	Management Audit of Gas Purchasing Practices	06-0556
New Mexico	Southwestern Public Service Co./New Mexico PRC	2010	Financial Audit of Fuel Costs for 2009 and 2010	09-00351-UT
New York	National Grid/New York PSC	2011	Audit of Affiliate Relationships and Transactions	10-M-0451
Ohio	Ohio-American Water Company/Ohio Consumers' Counsel	2010	Rate Case Audit - Class Cost of Service and Rate Design	09-0391-WS-AIR
	Vectren Energy Delivery of Ohio/Ohio Consumers' Counsel	2008	Rate Case Audit - Class Cost of Service and Rate Design	07-1080-GA-AIR
	Duke Energy-Ohio/Public Utilities Commission of Ohio	2009	Focused Management Audit of Fuel & Purchased Power (FPP Riders)	07-0723-EL-UNC
Texas	Center Point Energy/Texas AG	2009	Rate Case Audit - Class Cost of Service and Rate Design	GUD 9902
	Sharyland Utilities/St. Lawrence Cotton Growers Assn.	2017	Rate Case Audit - Class Cost of Service and Rate Design	PUC 45414
North Carolina	Aqua Utilities/PSS Legal Fund	2011	Rate Case Audit - Class Cost of Service and Rate Design	W-218, Sub-319
Washington DC	Washington Gas Light Co./Public Service Comm of DC	2011	Audit of Tariff Rider for Infrastructure Replacement Costs	1027
NARUC	National Association of Regulatory Utility Commissioners	2015	Presentation of Regulatory Issues with Net Metering Customers on Rates of Electric Utilities	

NOTE: Click on Docket Number to view testimony/report for each case where available.