Electronically Filed in TPUC Docket Room on January 31, 2020 at 3:16 p.m.

**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

JOE SHIRLEY

Q. Please state your name, position and business address.

A. My name is Joe Shirley. I am the Director of Utility Audit & Compliance with the Tennessee Public Utility Commission. My business address is 502 Deaderick Street, Fourth Floor, Nashville, Tennessee 37243.

Q. Please provide a summary of your educational background and professional experience.

A. I have a B.S. in Accounting from Western Kentucky University, an M.B.A. from Middle Tennessee State University and a J.D. from the Nashville School of Law. I am a licensed attorney and C.P.A. in Tennessee. I have over thirty-four years of professional experience as an attorney, utility consultant, financial analyst and auditor, with twenty-one of those years in public utility ratemaking and regulation in the telephone, natural gas, water and wastewater industries. I have litigated various utility rate cases as the lead attorney and I have testified in various utility rate hearings as an expert witness before the Tennessee Regulatory Authority and the Tennessee Public Service Commission, both of which are predecessors to the Tennessee Public Utility Commission (TPUC). I have also advised the leadership of the TPUC and its predecessor agencies on a host of regulatory issues.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to present a summary of the forecasted cost of service and related revenue deficiency for Tennessee Wastewater Systems, Inc., and to recommend utility service rates and charges that will generate sufficient revenues to cover those forecasted costs and eliminate the projected revenue deficiency. The TPUC Party Staff Exhibit and Schedules referenced in my testimony below are attached to the pre-filed direct testimony of Party Staff witness Kevin McClenathan.

Q. Please describe briefly the rate-setting methodologies used to forecast TWSI's cost of service in this case.

A. For ratemaking purposes, utility rates are designed to generate enough revenues to cover the utility's reasonable operating expenses, depreciation on utility plant and equipment, taxes and a fair profit to shareholders or owners. Revenues generated from all sources allowed by the Commission (e.g., service rates, late payment charges, disconnection fees, reconnection fees, etc.) are referred to as the utility's "Revenue Requirement." This ratemaking concept can be expressed through the following basic formula:

Revenue Requirement = Operating Expenses + Depreciation + Taxes + Fair Profit

"Operating Expenses" include items such as salaries and wages, professional and contractor services, administrative and office expenses, maintenance and repairs and purchased power. "Depreciation" recognizes the expense of consuming utility property, plant and equipment over their economically-useful lives. "Taxes" may include payroll taxes, property taxes, franchise and excise taxes, regulatory fees and income taxes. In Tennessee, a "Fair Profit" for regulated wastewater companies may be determined under two methods – the "Rate Base Method" and the "Operating Margin Method." Under the Rate Base Method, a Fair Profit is deemed to be a reasonable rate of return on the owners' investment in the utility system (e.g., net utility plant that is used and useful in providing utility service.) Under the Operating Margin Method, a Fair Profit is deemed to be a reasonable return on operating expenses requiring a return factor (e.g., operation and maintenance expenses, purchased power, depreciation and certain taxes.) In this case, I recommend computing the Fair

Profit component of the Company's Revenue Requirement under the Operating Margin Method since the majority of TWSI's utility plant is contributed by developers, thereby resulting in a minimal rate base attributable to owners' investment requiring a rate of return.

Q. **What operating margin are you recommending in this case to compute the Fair Profit component of the Company's Revenue Requirement?**

A. In Docket No. 08-00202, the Commission approved a settlement between Tennessee Wastewater Systems, Inc. and the Consumer Advocate and Protection Division which allowed an operating margin of 6.5%. However, in this docket I am proposing that the operating margin be increased to 10.0% in order to strengthen and improve the financial health and stability of the Company. Sound financial planning and ratemaking principles recognize that appropriate reserves should be maintained; reserves that in this case could be used by the Company to meet future capital needs, extraordinary expenses or other unplanned financial exigencies that otherwise would cause financial hardship to the Company and ratepayers. I am of the opinion that a 10.0% operating margin would provide the Company with a reasonable level of reserves while maintaining wastewater service rates that are just and reasonable overall. I also note that a 10.0% operating margin compares favorably to other jurisdictions that utilize the operating margin/ratio method for determining the revenue requirement of small water and wastewater utilities. For instance, the Florida commission recently approved a 10.0% operating margin for a water and wastewater company (see Florida Public Service Commission Docket No. 20170147-WS/ Order No. PSC-2018-0389-PAA-WS) and the Kentucky commission recently approved a 12% operating ratio (1.00/0.88) for small water and wastewater utilities (see Kentucky Public Service Commission Case Nos. 2018-00314 and 2018-00339).

Q. Briefly describe the procedure used to determine the other components of the Revenue Requirement in this case.

A. In Tennessee, utility rates are based on a utility's projected Revenue Requirement in a forward-looking period of time known as the "Attrition Period." The Attrition Period is generally the first year during which the new rates will be in effect. In this case, I have selected the Twelve Months Ending December 31, 2020 as the Attrition Period.

One of the first steps in projecting the various components of the Revenue Requirement is to identify an historical study period to be used as the foundation of the Attrition Period forecast. This twelve-month historical period is known as the "Test Period." In this case, I used the Twelve Months Ended December 31, 2018, as the Test Period.

The Test Period's financial and operational data are studied and adjusted to reflect a "normal year" by removing non-recurring items that are not expected to repeat in the future, out-of-period items that are not attributable to the utility's operations during the Test Period or items that are disallowed for ratemaking purposes (e.g., lobbying expenses, contributions, advertising, fines and penalties, etc.)

Once the Test Period has been normalized, the operational and financial data are adjusted further to account for "known and measurable changes" that are likely to occur through the Attrition Period. In order to develop a sound Attrition Period forecast, it is essential to examine the utility's business plans, budgets and prior performance, as well as various drivers and economic indicators of future capital investments, revenues and expenses.

After the Attrition Period forecast has been computed, the forecasted earnings at present rates is compared to the level of forecasted earnings that are required to achieve the Fair Profit component of the projected Revenue Requirement to determine the amount of any earnings surplus or deficiency. If application of the present rates results in an earnings deficiency, service rates should be increased in order to give the utility a fair opportunity to achieve its projected Revenue Requirement in the Attrition Period. The process of determining the particular rate adjustments that are needed to generate the projected Revenue Requirement is known as "rate design" and generally involves application of various rate policies and precedents.

Q. Please summarize the Revenue Requirement calculation for TWSI in this case.

A. Party Staff witness Kevin McClenathan presents the testimony, exhibits and workpapers that support the calculation of the Company's Revenue Requirement for the Attrition Period in this case. Generally speaking, however, the calculations, assumptions and adjustments necessary to determine the Company's Attrition Period forecast were based on review and on-site examination of TWSI's books, records and underlying source documents maintained at the Company's offices in Smyrna, Tennessee, as well as discussions with management.

The Company's Test Period earnings and Attrition Period forecast are summarized on TPUC Party Staff Exhibit, Schedule 2. The Attrition Period net operating loss of $105,550 represents the projected loss by TWSI for the Twelve Months Ending December 31, 2020 at presently approved rates. The Attrition Period net operating loss is computed by deducting forecasted operating expenses and taxes of $2,272,408 from forecasted operating revenues at present rates of $2,166,859.

Q. Please summarize how the Company's revenue deficiency was computed.

A. As shown on TPUC Party Staff Exhibit, Schedule 1, the Attrition Period operating expenses were multiplied by the recommended operating margin of 10% to determine the required operating income (or "fair profit") of $227,241. This amount, together with the forecasted Attrition Period net operating loss of $105,550, results in an operating income deficiency of $332,791. The income deficiency was then converted to a revenue deficiency through application of a Gross Revenue Conversion Factor of 1.34979. As reflected in TPUC Party Staff Exhibit, Schedule 12, this conversion factor recognizes the impact of forfeited discounts and taxes on each new $1 of revenue. This conversion resulted in a revenue deficiency of $449,198, which is the amount by which TWSI's service rates should be increased.

Q. How was TWSI's proposed rate design calculated in order to eliminate the projected revenue deficiency?

A. The Company has the following customer classes: Residential Customers, Commercial Customers Without Food Service, Commercial Customers With Food Service and Commercial Cabin Customers (overnight rental cabins located primarily in and around the Great Smoky Mountains). The rate design for each class, including billing determinants and proposed rates and charges, is located on TPUC Party Staff Exhibit, Schedule 13.

In general, the rate design for each class includes an increase in the monthly base rate sufficient to eliminate the forecasted revenue deficiency for the Attrition Period. In order to lessen the financial impact of the base rate increase, however, the rate design also includes a decrease to the corresponding escrow charge currently collected from customers primarily for capital needs and extraordinary expenditures.

As set forth in the revised tariff filed with the Joint Petition, Residential Customers are divided into rate classes by subdivision, and a fixed monthly base rate and a fixed monthly escrow charge are billed to customers in one combined rate. The details of each current and proposed base rate and escrow charge, as well as the associated projected revenues produced by those rates, are set forth in TPUC Party Staff Exhibit, Schedule 13. In summary, the proposed rate design results in an approximate 8.2% increase in Residential Customers' bills as follows:

Combined Base Rate and Escrow Charge:	Current	Proposed	Increase
Rate Class 1 through 4	$44.15	$47.75	8.2%
Rate Class 5 through 8	$39.14	$42.35	8.2%
Rate Class 9 (Southridge)	$23.94	$23.94	0.0%

No rate increase was proposed for the approximate 200 Residential Customers in Rate Class 9/Southridge subdivision because, as reflected in the revised tariff, these customers currently pay a surcharge for purchased wastewater treatment that is not applicable to any other Residential Customers.

Commercial Customers generally pay a fixed monthly base rate and a fixed monthly escrow charge based on the customer's designed daily wastewater flows. A fixed minimum is charged for smaller customers with designed flows of up to 300 gallons per day, and a fixed minimum is charged for larger customers with designed flows greater than 1,000 but less than 2,000 gallons per day. Additional fixed charges per 100 gallons per day for smaller customers and per 1,000 gallons per day for larger customers are then applied to achieve the designed daily flows for each individual commercial customer. Again, the details of each rate and charge and associated projected revenues are set forth in TPUC Party Staff Exhibit, Schedule 13; but the proposed rate design results in an approximate 8.5% increase in the minimum charge and an approximate 8.8% increase in the additional charge for Commercial Customers as follows:

Commercial Customers Without Food Service:

Combined Base Rate and Escrow Charge:	Current	Proposed	Increase
From 0 to 300 Gallons Per Day	$102.15	$110.80	8.5%
Up To Each Additional 100 Gallons Per Day Up To 1,000 Gallons Per Day Maximum	$20.45	$22.25	8.8%
From 1,001 to 2,000 Gallons Per Day	$403.25	$437.55	8.5%
Up To Each Additional 1,000 Gallons Per Day	$157.95	$171.85	8.8%

Commercial Customers With Food Service:

Combined Base Rate and Escrow Charge:	Current	Proposed	Increase
From 0 to 300 Gallons Per Day	$136.15	$147.70	8.5%
Up To Each Additional 100 Gallons Per Day Up To 1,000 Gallons Per Day Maximum	$24.50	$26.65	8.8%
From 1,001 to 2,000 Gallons Per Day	$501.00	$543.70	8.5%
Up To Each Additional 1,000 Gallons Per Day	$193.35	$210.40	8.8%

The Company's base rates and escrow charges have not been changed since July 8, 2009 in Docket No. 08-00202. The proposed rate increases outlined above, all of which are less than 9%, are less than general inflation over the last ten years and constitute reasonable increases needed to meet the Company's rise in revenue requirements over this period of time.

With regard to Commercial Cabin Customers, the parties propose to change the rate design to a fixed monthly base rate and a fixed monthly escrow charge based on the customer's cabin square footage as determined by the relevant county's Register of Deeds office. Further, based on examination of customer counts and billing determinants, rate classes of small (0 to 2,000 sq. ft), medium (2,001 to 4,000 sq. ft), large (4,001 to 6,000 sq. ft) and extra-large (over 6,000 sq. ft) cabins are recommended. The following Commercial Cabin monthly base rates and escrow charges are proposed:

Cabin Square Feet per Register of Deeds:	Proposed Base	Proposed Escrow	Proposed Total
From 0 to 2,000 Square Feet	$62.00	$12.00	$74.00
From 2,001 to 4,000 Square Feet	$71.00	$15.00	$86.00
From 4,001 to 6,000 Square Feet	$84.00	$18.00	$102.00
Over 6,000 Square Feet	$104.00	$21.00	$125.00

As shown on TPUC Party Staff Exhibit, Schedule 13, the proposed rates result in an overall, average rate increase of 16.7% to the Commercial Cabin Customer class. I am of the opinion that this increase is justified because the proposed rates likely reflect more closely the costs of providing wastewater service to this rate class, as indicated by the parity the proposed rates have with those of the Company's other small Commercial Customers. I note that the highest combined rate proposed for Commercial Cabin Customers of $125.00 compares favorably and falls within the range of the minimum combined rates proposed for small Commercial Customers Without Food Service of $110.80 and small Commercial Customers With Food Service of $147.70.

Q. Are there any other matters you wish to address?

A. Yes. As set forth in paragraph 7 of the Joint Petition filed in this docket, the parties are proposing to change the regulatory accounting for payments the Company receives from developers. In Docket No. 16-00015, the Commission ordered TWSI to record capacity development fees received from developers as Contributions in Aid of Construction ("CIAC") in accordance with the Uniform System of Accounts ("USOA") Account No. 271 and to record per-lot, plat-signing fees received from developers as Guaranteed Revenues in accordance with USOA Account No. 530.

In this docket, the parties recommend that all payments received from all developers from all sources and for all purposes be recorded as CIAC. The parties propose all such amounts recorded as CIAC be held in reserve and earmarked for necessary capital projects unless otherwise permitted by the Commission. The parties also propose that use of such CIAC reserves be governed by the same procedures for use of escrow funds as set forth in TPUC Rule 1220-04-13-.07(7) unless otherwise ordered by the Commission. Thus, consistent with this rule, TWSI must first receive authorization from the Commission via an approved petition or, in emergency situations, authorization in writing from the Chair, prior to using such CIAC reserves. In any such petition or request for emergency authorization, the Commission may order use of the CIAC funds to be conditioned on additional procedures, including but not confined to, special accounting, reporting, performance or documentation requirements.

The requested change in the accounting for payments received from developers is supported by the fact that such payments are tied to developer activities, which can be irregular and harder to predict than other revenue cycles. Thus, relying on such sporadic payments to meet routine cost of service requirements is not as desirable as relying on more stable sources of revenue, such as monthly service charges.

Additionally, to help lessen the impact of the increase to base rates, the rate design in this case proposes to decrease escrow charges reserved for capital needs by about one-third. As reflected in TPUC Party Staff Exhibit, Schedule 13, the rate design forecasts a reduction in annual escrow payments of about $188,000. And as reflected in TPUC Party Staff Exhibit, Schedule 3, the Test Period developer income eliminated from the cost of service study in this case was approximately $206,000. Thus, requiring all developer payments to be recorded as CIAC and held in reserve for capital needs would help make up for the proposed reduction in escrow, thereby enhancing the Company's maintenance of adequate reserves for capital requirements going forward.

Q. **Does this conclude your testimony?**

A. Yes it does.

VERIFICATION

STATE OF TENNESSEE)

COUNTY OF Davidson)

I, Joe Shirley, 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 of Joe Shirley and know the content thereof; and that the same are true and correct to the best of my knowledge, information and belief.

Joe Shirley

Sworn to and subscribed before me the 31st day of January, 2020.

Notary Public

ECTORY RENEE LAWLESS
STATE OF TENNESSEE NOTARY PUBLIC
DAVIDSON COUNTY

My Commission Expires: 3/8/2022