

**IN THE TENNESSEE PUBLIC UTILITY COMMISSION  
AT NASHVILLE, TENNESSEE**

**IN RE:**

**JOINT PETITION OF AQUA GREEN  
UTILITY, INC., AND TPUC STAFF  
(AS A PARTY) TO INCREASE RATES  
AND CHARGES**

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**DOCKET NO. 21-00128**

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**PRE-FILED DIRECT TESTIMONY**

**OF**

**JOE SHIRLEY**

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

2   A.    My name is Joe Shirley. I am the Director of Utility Audit & Compliance with the  
3        Tennessee Public Utility Commission. My business address is 502 Deaderick Street,  
4        Fourth 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 from Western Kentucky University, an M.B.A. from Middle  
8        Tennessee State University and a J.D. from the Nashville School of Law. I am a licensed  
9        attorney and C.P.A. in Tennessee. I have over thirty-six years of professional experience  
10       as an attorney, utility consultant, financial analyst, and auditor, with twenty-three of those  
11       years in public utility ratemaking and regulation in the telephone, natural gas, water and  
12       wastewater industries. I have litigated various utility rate cases as the lead attorney, and  
13       I have testified in various utility rate hearings as an expert witness before the Tennessee  
14       Public Utility Commission and its predecessor agencies. I have also advised the  
15       leadership of the Commission and its predecessor agencies on a host of regulatory issues  
16       and have testified before the Tennessee General Assembly regarding public utility  
17       matters.

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

19   A.    The purpose of my testimony is to present a summary of the forecasted cost of service  
20        and related revenue deficiency for Aqua Green Utility Inc., and to recommend utility  
21        service rates and charges that will generate sufficient revenues to cover those  
22        forecasted costs and eliminate the projected revenue deficiency. The TPUC Party Staff  
23        Exhibit and Schedules referenced in my testimony below are attached to the pre-filed

1 direct testimony of Party Staff witness Michelle Mairs.

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

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

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

12 "Operating Expenses" include items such as salaries and wages, professional and  
13 contractor services, administrative and office expenses, maintenance and repairs and  
14 purchased power. "Depreciation" recognizes the expense of consuming utility  
15 property, plant and equipment over their economically-useful lives. "Taxes" may  
16 include payroll taxes, property taxes, franchise and excise taxes, regulatory fees and  
17 income taxes.

18 In Tennessee, a "Fair Profit" for regulated wastewater companies may be determined  
19 under two methods – the "Rate Base Method" and the "Operating Margin Method."  
20 Under the Rate Base Method, a Fair Profit is deemed to be a reasonable rate of return  
21 on the owners' investment in the utility system (e.g., net utility plant that is used and  
22 useful in providing utility service.) Under the Operating Margin Method, a Fair Profit  
23 is deemed to be a reasonable return on operating expenses requiring a return factor.

1 In this case, I recommend computing the Fair Profit component of the Company's  
2 Revenue Requirement under the Operating Margin Method since the majority of Aqua  
3 Green Utility's plant is contributed by developers, thereby resulting in a minimal rate  
4 base attributable to owners' investment requiring a rate of return.

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

7 **A.** In Docket No. 20-00009, which was a staff-assisted rate case involving Tennessee  
8 Wastewater Systems, Inc., the Commission approved an Operating Margin Rate of  
9 10.0%. The 10.0% operating margin established by the Commission in Docket No. 20-  
10 00009 compares favorably to other jurisdictions that utilize the operating margin/ratio  
11 method for determining the revenue requirement of small water and wastewater  
12 utilities. For instance, the Florida commission utilized a 10.0% operating margin for a  
13 water and wastewater company (see Florida Public Service Commission Docket No.  
14 20170147-WS/ Order No. PSC-2018-0389-PAA-WS) and the Kentucky commission  
15 approved a 12% operating ratio (1.00/0.88) for small water and wastewater utilities (see  
16 Kentucky Public Service Commission Case Nos. 2018-00314 and 2018-00339).

17 Sound financial planning and ratemaking principles recognize that appropriate reserves  
18 should be maintained; reserves that in this case could be used by the Company to meet  
19 future capital needs, extraordinary expenses or other unplanned financial exigencies  
20 that otherwise would cause financial hardship to the Company and ratepayers.

21 I am of the opinion that a 10.0% operating margin would provide Aqua Green Utility  
22 with a reasonable level of reserves while maintaining wastewater service rates that are  
23 just and reasonable overall

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

3    A.    In Tennessee, utility rates are based on a utility's projected Revenue Requirement  
4           in a forward-looking period of time known as the "Attrition Period." The Attrition  
5           Period is generally the first year during which the new rates will be in effect. In this  
6           case, the parties have selected the Twelve Months Ending December 31, 2022 as the  
7           Attrition Period.

8           One of the first steps in projecting the various components of the Revenue  
9           Requirement is to identify an historical study period to be used as the foundation  
10          of the Attrition Period forecast. This twelve-month historical period is known as  
11          the "Test Period." In this case, I used the parties used the Twelve Months Ended  
12          December 31, 2020, as the Test Period.

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

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

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

10 **Q. Please summarize the Revenue Requirement calculation for Aqua Green Utility in**  
11 **this case.**

12 A. Party Staff witness Michelle Mairs presents the testimony, exhibits and workpapers that  
13 support the calculation of the Company's Revenue Requirement for the Attrition Period  
14 in this case. Generally speaking, however, the calculations, assumptions and adjustments  
15 necessary to determine the Company's Attrition Period forecast were based on review and  
16 examination of Aqua Green Utility's books, records and underlying source documents  
17 maintained by the Company, as well as discussions with Company representatives and  
18 management.

19 The Company's Test Period earnings and Attrition Period forecast are summarized on  
20 TPUC Party Staff Exhibit, Schedule 2. The Attrition Period net operating loss of \$6,712  
21 represents the projected loss by Aqua Green Utility for the Twelve Months Ending  
22 December 31, 2022 at presently approved rates. The Attrition Period net operating loss is

1        computed by deducting forecasted operating expenses and taxes of \$51,254 from  
2        forecasted operating revenues at present rates of \$44,542.

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

4        A.    As shown on TPUC Party Staff Exhibit, Schedule 1, the Attrition Period operating  
5        expenses, less management fees and income taxes, were multiplied by the recommended  
6        operating margin of 10% to determine the required operating income (or "fair profit") of  
7        \$4,907. This amount, together with the forecasted Attrition Period net operating loss of  
8        \$6,712, results in an operating income deficiency of \$11,619. The income deficiency was  
9        then converted to a revenue deficiency through application of a Gross Revenue  
10       Conversion Factor of 1.353821. As reflected in TPUC Party Staff Exhibit, Schedule 5,  
11       this conversion factor recognizes the impact of state excise and federal income taxes on  
12       each new \$1 of revenue. This conversion resulted in a projected revenue deficiency of  
13       \$15,730, which is the amount by which Aqua Green Utility's service rates should be  
14       increased.

15       **Q.    How was Aqua Green Utility's proposed rate design calculated in order to eliminate**  
16       **the projected revenue deficiency?**

17       A.    The Company has the following customer classes: Residential Customers, Commercial  
18       Customers, and Sewer Access Customers. The rate design for each class, including  
19       billing determinants and proposed rates and charges, is located on TPUC Party Staff  
20       Exhibit, Schedule 7.

21       In general, the rate design for the Residential and Commercial class includes an increase  
22       in the monthly base service rate, and the rate design for the Sewer Access Customers

includes an increase in the annual sewer access fee, which when combined are sufficient to eliminate the projected revenue deficiency for the Attrition Period.

It should be noted that the Company's existing escrow charges of \$10.13 per month for Residential Customers and \$1.37 per 1,000 gallons for Commercial Customers remain unchanged. There is no escrow charge associated with the Sewer Access Customers. The proposed rate design, therefore, maintains the existing escrow charges that the Company will earmark and hold in reserve for future use in accordance with the Commission's financial security rules for wastewater utilities.

As set forth in the Joint Petition and the Notice mailed to the Company's customers, the rate design results in the following proposed rates and charges:

	<u>Current Amount</u>	<u>Proposed Amount</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
RESIDENTIAL CUSTOMERS 1/	\$44.53	\$55.63	\$11.10	24.9%
COMMERCIAL CUSTOMERS 2/	\$5.75 per 1,000 gal.	\$7.67 per 1,000 gal.	\$1.92 per 1,000 gal.	33.4%
ANNUAL SEWER ACCESS 3/	\$120.00	\$150.00	\$30.00	25.0%
1/ Both the current and proposed Residential rate include a \$10.13 escrow charge.				
2/ Both the current and proposed Commercial rate include a \$1.37 per 1,000 gal. escrow charge.				
3/ The Annual Sewer Access fee does not apply to Residential or Commercial customers.				

The Company's base rates and escrow charges have not been increased in more than twelve years. The current rates and charges were approved by Commission order entered on July 31, 2009, in Docket No. 09-00045. The Company's operating expenses and taxes have materially increased since the rates were first approved, and it is to the point that



1 Aqua Green Utility can no longer continue routine operations without experiencing  
2 financial losses. When examined on an annual basis, the requested increases represent  
3 less than a 2% per annum increase in Residential rates and Sewer Access fees, and about  
4 a 2⅓% per annum increase in Commercial rates. Further, the proposed rates for  
5 Residential, Commercial and Sewer Access are comparable to other wastewater service  
6 rates of jurisdictional utilities and, if approved, will remain lower than the presently  
7 authorized Residential, Commercial and Sewer Access rates and fees of certain  
8 decentralized wastewater systems regulated by the Commission. For these reasons, I am  
9 of the opinion that the rates proposed in this proceeding are reasonable and recommend  
10 that they be approved by the Commission effective January 1, 2022.

11 Proposed tariffs implementing the requested rates are being filed for approval in this  
12 docket under separate cover.

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

14 A. Yes. As outlined in the testimonies of Dart Kendall and Michelle Mairs, the Company is  
15 requesting disbursement of \$9,163 from its escrow account to recover unpaid invoices  
16 relating to environmental testing of the Company's wastewater systems during the Test  
17 Period, repair work done at two customer locations, and replacement of a grinder pump.  
18 Commission rules generally limit the use of escrow funds to pay or reimburse for needed  
19 capital projects or extraordinary expenses. The rules, as set forth in Rule 1220-04-13-  
20 .07(7)&(8), also provide that escrow funds may be used for other purposes permitted by  
21 the Commission; and the rules in subsection .07(8) further provide that the rules may be  
22 waived or modified upon a good cause showing of considerations involving affordability  
23 of rates, rate shock or other operating characteristics of the utility.

1 Due to the operating financial losses of the Company during the Test Period, as well as  
2 the forecasted financial losses for the Attrition Period, the items requested for payment  
3 from escrow could not have been paid from the utility's operations without deepening the  
4 Company's existing financial losses or without requesting additional rate relief beyond  
5 the rates proposed in this case. Party staff has reviewed the support for the requested  
6 items and find them to be reasonable and recommend that they be paid. Using the  
7 Company's existing escrow funds as a mechanism to cover payment would provide for  
8 reimbursement of these items with minimal impact to customers' service rates and  
9 charges. I therefore recommend the Commission approve Aqua Green Utility's request  
10 to withdraw funds from its escrow account in the amount requested.

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

12 A. Yes it does.

## VERIFICATION

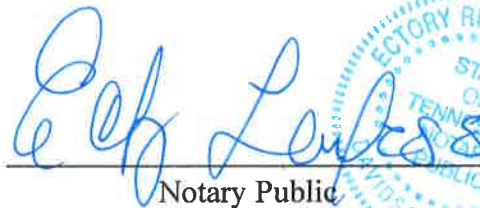
STATE OF TENNESSEE )


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 on the 4th day of November, 2021.

  
Notary Public



My Commission Expires: 3/8/2022