BEFORE THE TENNESSEE PUBLIC UTILITY COMMISSION

NASHVILLE, TENNESSEE

March 9, 2020

IN RE:	)	
	)	
PETITION OF TENNESSEE WATER SERVICE, INC. FOR ADJUSTMENT OF RATES AND CHARGES, APPROVAL OF A QUALIFIED INFRASTRUCTURE INVESTMENT PROGRAM, AND MODIFICATION TO CERTAIN TERMS AND CONDITIONS FOR THE PROVISION OF WATER SERVICE	)))))))	**DOCKET NO. 19-00028**

AMENDED ORDER[1]

This matter came before Chair Robin L. Morrison,[2] Commissioner Herbert H. Hilliard, and Commissioner David F. Jones of the Tennessee Public Utility Commission (the "Commission" or "TPUC"), the voting panel assigned to this docket, during a regularly scheduled Commission Conference held on November 4, 2019, for consideration of the *Petition* filed by Tennessee Water Service, Inc. ("TWS" or "Company") on February 28, 2019 seeking an adjustment of rates and charges, approval of qualified infrastructure investment program, and modification to certain terms and conditions for the provision of water service. TWS amended its *Petition* on March 22, 2019, to remove its request for a Qualified Infrastructure Investment Program.

I. SUMMARY

Setting utility rates is a complicated process entailing the analysis of financial data and the

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[1] The amendments to the Commission's *Order* of January 30, 2020, are limited to corrections to the Depreciation and Amortization chart on page 18 and a technical correction in wording on page 19. In addition, the Commission's final schedules are attached to this Amended Order. Neither the corrections aforementioned or the attached schedules change the final result of the *Order* of January 30, 2020.

[2] Commission Vice Chair Kenneth C. Hill was originally assigned to the Hearing Panel but recused himself on October 14, 2019. Chair Morrison replaced him. Transcript of Commission Conference, p. 34 (October 14, 2019).

projection of a public utility's revenues, operating expenses, and rate base to arrive at a rate that will allow a utility the opportunity to earn a reasonable rate of return. The rate case process allows for the intervention of interested parties and generally includes the participation of the Tennessee Attorney General's Office, which represents the interests of utility customers through the Consumer Advocate Unit ("Consumer Advocate"). Rate cases entail a multitude of accounting and financial issues that include troves of documents and thousands of calculations, sponsored by witnesses who are subject to discovery requests and cross-examination. Using the evidentiary record developed by the parties, the Commission sets rates that are just and reasonable. The record of this rate case, as with all matters before the Commission, is available online through the Commission's website for public inspection.

The tragedy and destruction brought by the wildfires in Sevier County, Tennessee, in November of 2016 and its consequences weigh heavily over this matter. There are no known instances within the Commission's history in which a public utility has lost 95% of its customer base and in such a disastrous manner. This is the first instance and, hopefully, the last. Nevertheless, service has been restored at great cost and, in this proceeding, the Commission must look at the facts and financial data before it and set rates.

The Commission has not been blind to the plight of all involved. There have been understandably forthright and emotional appeals from customers about the amount of the rates and matters of insurance coverage. One issue in this matter pertains to what extent, if any, the Company should be penalized for its failure to have an insurance policy that could have at the very least offset some of the extensive damage caused by the wildfires. As explained within this order, the insurance issue has been concluded with the Company forgoing nearly 50% of the cost of the replacement of the under-insured assets.[3] As such, customers will benefit from new assets with a

[3] *See* pp. 34-39 of this *Order, Section VI, G.10. Regulatory Liability – Uninsured Property.*

longer and more efficient service life. Furthermore, recovery of the remaining 50% of the Company's investment is spread over sixty-six years. By spreading the cost over a longer period, the burden on customers is lowered considerably. It must be noted here that the decision of the Commission was not unanimous. Commissioner Hilliard did not vote with the majority on the basis that the Company's alleged negligence in not having appropriate insurance entitled the Company to no recovery.[4] To the extent the majority's conclusion on the insurance issue impacted numerous calculations in the majority's revenue deficiency, Commissioner Hilliard did not vote with the majority.

Nevertheless, one must bear in mind that this issue is but one of many considered by the Commission in the context of a rate case. Even assuming the Commission adopted every position of the Consumer Advocate in this matter, including penalizing the Company for 100% of their investment in replacing fire damaged water facilities, the customers of TWS would still face a significant rate increase.

Average Monthly Customer Bill
Under Company and Consumer Advocate Rate Proposals vs. Commission Decision

Company	Consumer Advocate	Commission Decision
$125	$87	$96

Unfortunately, the cost of providing water service is going to be higher when there are fewer customers. A conventional wisdom in ratemaking is that the greater the number of customers, the easier it is to spread and lower the cost of service. Here, the number of customers is far below the level of customers that existed before the wildfires. With time, the number of customers should

[4] Transcript of Commission Conference, pp. 30-31 (November 4, 2019): "Commissioner Hilliard: I voted no primarily because I think the company should have had to put aside the $700,000. I thought their explanation for why they did not adequately insure the facilities was inadequate. I also thought it was very negligent not to insure something at a bare premium where the deductible was higher than what you'd actually get paid if you actually had a loss."

grow. With other dynamic factors subject to change, it is likely the Company's rates will need to be reviewed in the near future.

II. Background and *Petition*

TWS is a public utility subject to the Commission's jurisdiction, providing water service to customers located in the Chalet Village Subdivision ("Chalet Village") in Sevier County, Tennessee. In November 2016, devastating wildfires spread over nearly 180,000 acres throughout Gatlinburg, Tennessee, ultimately claiming fourteen lives. In addition to the tragic loss of life, the wildfires caused devastating property damage to both homes and businesses in the community. TWS had approximately 580 water connections prior to the wildfire, but only 57 remained after the wildfires. The Company, in turn, filed an *Emergency Petition for Emergency Relief* in Commission Docket No. 17-00108. Subsequent to a public hearing and based upon the evidentiary record in that proceeding, the Commission ordered the following:

> Tennessee Water Service, Inc. is authorized to create two regulatory asset accounts to defer: a) actual operating losses beginning January 1, 2017 until its next rate case or otherwise ordered; and b) returns on identified capital projects necessary to repair fire damage and restore the water system to operational status; such returns to be accrued on the actual amount of the capital assets placed into service at Tennessee Water Service, Inc.'s currently-authorized rate of return of 6.89% and beginning on the date the capital asset is placed into service and continuing until its next rate case unless ordered otherwise.
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> Tennessee Water Service, Inc. is authorized to accrue and defer reasonable and necessary case expenses.
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> Tennessee Water Service, Inc. shall increase the minimum service charge for all current and future customers by $7. Tennessee Water Service, Inc. is not authorized to charge inactive customers or lot owners the minimum service charge.
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> The Operational Cost Pass-through Mechanism, as modified by the Consumer Protection and Advocate Division of the Office of the Tennessee Attorney General, is approved.
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> Tennessee Water Service, Inc. shall file quarterly reports detailing the accounting transactions and account balances for its deferred operating losses, returns on capital assets, rate case expenses, and the amount of quarterly revenues and the amount of

> aggregate revenues collected from active customers as a result of the minimum service charge increase.
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> Tennessee Water Service, Inc. shall file a rate case petition no later than July 1, 2019, unless an order from the Tennessee Public Utility Commission extending this deadline for good cause is obtained.[5]

This *Petition* was filed February 28, 2019 and initially sought a revenue requirement of $469,767, representing a 177% increase over pro-forma rate revenues at present of $169,323.[6] The Company initially sought to increase the minimum monthly charge from $25.70 over a three-year phase in period to $95.00 per month.[7] After the first 1,000 gallons of usage, the Company proposed a three-year phased in volumetric charge of $20.65 per 1,000 gallons.

The Company further proposed a Private Fire Service charge. In addition, the Company sought a Qualified Infrastructure Investment Program ("QIIP") in accordance with Tenn. Code Ann. § 65-5-103 to address a continuing need to maintain and upgrade infrastructure to provide safe and reliable water service.

III. TRAVEL OF THE CASE

The Consumer Advocate filed a *Petition to Intervene* on April 3, 2019. The parties commenced the submission of discovery requests and responses. The Consumer Advocate submitted Pre-filed Testimony of William H. Novak on July 12, 2019, which proposed that a more modest rate increase of approximately $73,000.[8]

On August 30, 2019, TWS filed copies of the legal notices concerning the Hearing date and the proposed rate changes that were published in appropriate newspapers of general circulation, as required by TPUC Rule 1220-4-1-.05.

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[5] *In re: Petition of Tennessee Water Service, Inc. for Approval of an Interim Emergency Wildfire Restoration Surcharge, Interim Emergency Water Service Availability Surcharge, Interim Emergency Make-Whole Surcharge, and an Interim Emergency Operation Cost Pass-Through Mechanism*, Docket No. 17-00108, *Final Order*, Ordering Clauses 2-7 (February 21, 2018).

[6] Dante M. DeStefano, Pre-filed Direct Testimony, p. 8 (February 28, 2019).

[7] *Id.* at 4.

[8] William H. Novak, Pre-filed Direct Testimony, p. 8 (July 8, 2019).

IV. The Hearings and Post Hearing Filings

The Hearing on the merits of the *Petition* commenced in Nashville and was held on September 9, 2019 as noticed by the Commission on August 30, 2019. Participating in the Hearing were the following parties and their respective counsel:

> Tennessee Water Service, Inc. - Ryan Freeman, Esq., Baker, Donelson, Bearman, Caldwell & Berkowitz, P.C., 633 Chestnut Street, Suite 1900, Chattanooga, Tennessee, 37450.
>
> Consumer Advocate Unit – Wayne M. Irvin, Esq. Office of the Tennessee Attorney General, Financial Division, Consumer Advocate Unit, P.O. Box 20207, Nashville, Tennessee 37202-0207.

The panel heard testimony from Company witnesses, Catherine E. Heigel, Dante DeStefano, Anthony Gray, Jared Deason, and J. Bryce Mendenhall. The Consumer Advocate presented witness testimony from William H. Novak. In addition to offering the opportunity for live public comment, a public comment was made telephonically during the Hearing.

Additional filings and pre-filed testimony were submitted before the Hearing Panel reconvened on October 14, 2019, during a regularly scheduled Commission Conference for a supplemental hearing regarding the extent of regulatory liability that is appropriate for TWS.[9] The supplemental hearing was duly noticed on October 1, 2019. At the supplemental hearing, the Hearing Panel heard public comment.

The voting panel assigned to this matter reconvened on November 4, 2019 and deliberated, announcing findings and conclusions upon consideration of the entire record, including all exhibits and the testimony of witnesses. With the exception of a matter concerning a regulatory liability adjustment to account for a lack of proper insurance, the Hearing Panel voted unanimously in favor of the findings and conclusions. Commissioner Herbert Hilliard dissented from a majority of the

[9] *Pre-Hearing Order*, p. 1 (October 4, 2019).

Hearing Panel with respect to the regulatory liability finding.[10]

V. Criteria for Establishing Just and Reasonable Rates

The Commission has jurisdiction to set the rates of public utilities operating in the State of Tennessee.[11] In setting rates for public utilities, the Commission balances the interests of the utilities subject to its jurisdiction with the interests of Tennessee consumers, i.e., it is obligated to fix just and reasonable rates.[12] A public utility possesses the burden of proof on a petition to prove an adjustment of its rates is warranted.[13]

The Commission must also approve a rate that provides the regulated utility an opportunity to earn a just and reasonable return on its investments.[14] The Commission considers petitions for a rate increase, filed pursuant to Tenn. Code Ann. § 65-5-103, in light of the following criteria:

1. The investment or rate base upon which the utility should be permitted to earn a fair rate of return;

2. The proper level of revenues for the utility;

3. The proper level of expenses for the utility;

4. The rate of return the utility should earn; and

5. Other factors specific to a matter that warrants an investigation to determine the impact on a utility and its rates.

There is no single, precise measure of the fair rate of return a utility is allowed an opportunity to earn. Therefore, the Commission must exercise its judgment in making an appropriate determination. The Commission, however, is not without guidance in exercising its

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[10] Transcript of Commission Conference, pp. 30-31 (November 4, 2019). Although Commissioner Hilliard's dissent has a cascade effect on the mathematical conclusions of multiple calculations adopted herein, he does not dissent from the principles and policy decisions applied to the remainder of the issues.
[11] Tenn. Code Ann. §§ 65-4-101(6); 65-4-104; 65-5-101, *et seq.*
[12] Tenn. Code Ann. § 65-5-101 (2018).
[13] Tenn. Code Ann. § 65-5-103(a) (2018).
[14] *Bluefield Water Works and Improvement Company v. Public Service Commission of the State of West Virginia*, 262 U.S. 679, 43 S.Ct. 675 (1923).

judgment:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.[15]

In addition, the United States Supreme Court has determined that regulated utilities are entitled to a return that is "just and reasonable."[16] The rate a utility is permitted to charge should enable it "to operate successfully, to maintain its financial integrity, to attract capital, and to compensate investors for the risks assumed."[17]

The general standards to be considered in establishing the fair rate of return for a public utility are financial integrity, capital attraction and setting a return on equity that is commensurate with returns investors could achieve by investing in other enterprises of corresponding risk.[18] Thus, rates established must allow a company to cover its operating expenses and provide an opportunity to earn a fair rate of return on a company's investment used to provision service. Further, a rate should be reasonable not only when it is first established, but also for a reasonable time thereafter.[19]

The Commission has wide discretion with regard to setting rates. The Commission may "utilize an historical test period, a forecast period, a combination of these where necessary, or any other accepted method of rate making necessary to give a fair rate of return."[20] The Supreme Court noted in *Powell Tel. Co. v. Tennessee Pub. Serv. Comm'n* that, "there is no statutory nor decisional

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[15] *Id.* at 692-693; *see also Duquesne Light Co. v. Barasch*, 488 U.S. 299, 310 (1989).
[16] *Federal Power Comm'n v. Hope Natural Gas Co.* 320 U.S. 591, 605 (1944).
[17] *Id.*
[18] *Id.* at 603.
[19] *McCardle v. Indianapolis Water Co.*, 272 U.S. 400, 408-409, 47 S.ct 144, 148 (1926); *Southern Bell Telephone & Telegraph Co. v. Tennessee Pub. Serv. Comm'n*, 304 S.W2d 640, 647 (1944).
[20] *Powell Tel. Co. v. Tennessee Pub. Serv. Comm'n,* 660 S.W.2d 44, 46 (Tenn.1983); *Am. Ass'n of Retired Persons v. Tennessee Pub. Serv. Comm'n,* 896 S.W.2d 127, 133 (Tenn.Ct.App.1994).

law that specifies any particular approach that must be followed by the Commission. Fundamentally, the establishment of just and reasonable rates is a value judgment to be made by the Commission in the exercise of its sound regulatory judgment and discretion."[21] Accordingly, the Commission is not limited to adopting any particular approach or to adopting a specific test period in making known and measurable adjustments to produce just and reasonable rates.[22]

Applying these principles and criteria, and upon consideration of the entire record, including all exhibits and the testimony of the witnesses, the panel made the following findings and conclusions. It should be noted here that some calculations contain numbers rounded to the nearest whole number.

VI. Findings and Conclusions

A. Test Period and Attrition Period

In a rate case, the Commission must decide the appropriate test period and attrition period to be utilized in the calculation of rates. Selecting the test period has the stated purpose of providing an indication of the rate of return that will be produced during the period under the existing rate structure in the reasonably foreseeable future. The test period takes into consideration the effect of calculations related to revenues, expenses, and investments.

The Company selected a historical test period of the twelve months ending September 30, 2018 and an attrition period of the twelve months ending December 31, 2020. The Consumer Advocate adopted the same review periods.[23] However, the Consumer Advocate also utilized monthly data for the three-year period ended September 30, 2016 to form a "pre-fire" snapshot for analysis in order to properly consider the impact of the significant impact on the wildfires such as

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[21] *Powell*, 660 S.W.2d at 46.
[22] *CF Industries v. Tennessee Pub. Serv. Comm'n,* 599 S.W.2d 536, 543 (Tenn. 1980).
[23] William H. Novak, Pre-filed Direct Testimony, p. 6 (July 12, 2019).

loss of customers.[24] The panel voted unanimously to adopt the attrition period of the twelve months ending December 31, 2020.

B. REVENUES

The primary difference between the parties' water sales forecasts is the application of the tariff's base charge to water usage. The Company's forecast is based on providing customers with up to 2,000 gallons of water per month in the base charge per the Company's current billing practice; however, the Consumer Advocate includes only 1,000 gallons in the base charge per the Company's tariff.[25] The Company has been incorrectly applying its tariff rate by implementing the $25.70 monthly charge for the first 2,000 gallons of water rather than the first 1,000 gallons of water. As a result, the Company has been under-collecting from customers by $6.30 per customer monthly dating back to the implementation of the emergency rate order in Docket No. 17-00108.[26] Another material difference is that the Consumer Advocate projects monthly customer usage that is 601 gallons (4,080 – 3,479) more than the Company's, which is based on normalized, pre-fire water sales for the three years ended September 30, 2016.[27]

The Hearing Panel concluded that the Consumer Advocate's corrected water sales forecast should be adopted because the forecast is based upon the correct application of the Company's current tariff, and it reflects normalized, pre-fire water usage and water loss rates. As such, the Commission forecasts Attrition Year Water Sales at present rates of $248,782, which is $78,370 more than the Company's water sales forecast of $170,412.

With respect to the category of "Other Revenue", the Company did not originally include any amount for Other Revenue, but it subsequently amended its case to adopt the Consumer

[24] *Id.* at 6-7.
[25] *Id.* at 12.
[26] *Id.*
[27] *Id.* at 12-13.

Advocate's forecast of Other Revenue for the Attrition Year. The Consumer Advocate projected Other Revenue of $4,919, based upon the average Other Revenue per bill for the three years ended September 30, 2016, and applied this average to the projected customer bills for the Attrition Year. The Hearing Panel found that the Consumer Advocate's calculations were reasonable and accurate for projection of Other Revenue at present rates. Additionally, the Company agrees with the Consumer Advocate's forecast. Based on corrections to water sales, the panel voted unanimously to adopt a forfeited discount rate of 1.4773% ($3,675/$248,782).

C. OPERATIONS AND MAINTENANCE EXPENSES

For the Company's Operations and Maintenance Expenses, the Company forecasted $224,451 and Consumer Advocate forecasted $141,752. The Hearing Panel adopted a forecast of $141,466. The table below provides a breakdown of these expenses, followed by an examination of each expense listed.

	Company	Consumer Advocate	Commission Decision
Purchased Power	$ 8,723	$ 8,527	$ 8,667
Maint. & Repair	50,190	23,240	23,622
Maint. Testing	1,920	1,876	1,908
Chemicals	243	111	241
Transportation	2	5	2
Outside Services	5,842	1,986	5,829
Office Supplies	2,954	2,882	2,935
Pension Benefits	6,924	6,769	6,880
Rent	2,047	1,492	2,037
Insurance	3,401	3,324	3,379
Office Utilities	2,386	1,575	2,370
Miscellaneous	1,525	1,431	1,515
Purchased Water	116,937	60,295	61,301
Bad Debt	1,187	600	610
Regulatory	0	0	0
Salary & Wages	20,170	27,639	20,170
Total	$224,451	$141,752	$141,466

C.1. Purchased Power, Maintenance Testing, Transportation, Office Supplies, Pension Expenses, Insurance, and Miscellaneous Expenses

With respect to Purchased Power; Maintenance Testing; Transportation; Office Supplies; Pension Benefits; Insurance; and Miscellaneous, the Company determined the three-year, pre-fire average amount for the three years ended September 30, 2016, and, using the midpoint of the Test Year to the midpoint of the Attrition Year, it inflated the pre-fire average amount for 27 months (7.58%) and divided by the three-year average number of customers to determine an expense amount per customer.[28] The per-customer amount was then multiplied by a projected 313 customer count to arrive at the Attrition Year forecast.[29]

The Consumer Advocate also used the same three-year, pre-fire average as a basis to forecast these expense categories; however, it used the end of the Test Year to the midpoint of the Attrition Year to inflate the pre-fire average amount by 21 months (5.85%) in order to compute its expense amount per customer.[30] The per-customer amount was then multiplied by a projected 311 customer count to arrive at the Attrition Year forecast. Both the Company and the Consumer Advocate used a 3.3% CPI as an annual inflator. The difference in growth rates is due to the Company starting at the midpoint of the Test Year and inflating for 27 months to arrive at a compounded growth rate of 7.58%; whereas, the Consumer Advocate started at the end of the Test Year and inflated for 21 months to arrive at a compounded growth rate of 5.85%. [31]

The pre-fire average is farther removed in time than the typical, most-recently completed test year generally employed in rate cases. Under the unique facts of this case, the Hearing Panel found such methodology necessary here and the Company's compounded growth rate to be reasonable. Due to ongoing fire recovery efforts in 2017 and 2018 affecting routine operations,

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[28] Anthony Gray, Pre-filed Direct Testimony, p. 3-4 (February 28, 2019).
[29] *Id.*
[30] William H. Novak, Pre-filed Direct Testimony, p. 7, fn 8. (July 12, 2019).
[31] *Id.*

both parties normalize the test period by developing a pre-fire, three-average for 2014 through 2016 for purchased power, maintenance testing, transportation, office supplies, pension benefits, insurance, and miscellaneous expenses. The Hearing Panel concluded the pre-fire average amounts to be a reasonable basis for projecting these expenses for the Attrition Year. It should be noted that the differences in the parties' methodology here are not significant. For all the expense categories discussed here, the Company projects a total of $25,449, as compared to the Consumer Advocate's $24,814; a difference of only $635 for all of the aforementioned expenses combined.

Based on this analysis, the Commission utilized a forecast for each of these expense categories by applying the compounded growth rate of 7.58% to the pre-fire averages to compute an expense amount per customer, and then multiplied that amount by 311 customers projected for the Attrition Period to arrive at the expense forecast. Accordingly, the Hearing Panel voted unanimously to adopt expenses in the following amounts: Purchased Power of $8,667, Maintenance Testing of $1,908, Transportation of $2; Office Supplies of $2,935; Pension Benefits of $6,880; Insurance of $3,379; and Miscellaneous Expense of $1,515.

C.2. Maintenance and Repair Expenses

With respect to Maintenance and Repair expenses, the Company used a per-customer average of selected maintenance accounts for the three years ended September 30, 2016, inflated for 27 months (7.58%), and applied to projected Attrition Year customers of 311 to determine a portion of its forecast.[32] The Company then added the booked contract operator expense for the year ended September 30, 2018 to this amount to arrive at its total Attrition Year forecast of $50,173 for Maintenance and Repair. After the Hearing, the Company submitted a revised forecast of 50,190,

[32] Anthony Gray, Pre-filed Direct Testimony, p. 3 (February 28, 2019).

which was based on Attrition Year customers of 313 as opposed to the 311 included in its original forecast.[33]

The Consumer Advocate used a three-year average of individual maintenance accounts inflated for 21 months (5.85%) to determine an Attrition Year amount of $23,240.[34] The Company projected $26,950 more than the Consumer Advocate. The primary difference between the Company and the Consumer Advocate is the amount forecasted for contract operator expense. The Consumer Advocate used a pre-fire, three-year average of $20,893 to normalize this expense, whereas the Company used the 2018 Test Year ended September 30, 2018, amount of $47,444 for its basis.[35]

The Hearing Panel found that post-fire restoration of the water system is largely complete and the pre-fire average is more reflective of Maintenance and Repair expense on a going-forward basis; thus, Maintenance and Repair expense should return to pre-fire normalized amounts. Much of the system has been rebuilt and replaced with new plant. As such, it is reasonable to expect a downward trend in Maintenance and Repair expense over the next few years. Based on using the pre-fire average inflated by the Company's forecasted growth of rate of 7.58%, the Hearing Panel voted unanimously to adopt $23,622 as the Maintenance and Repair expense for the Attrition Year.

C.3. Chemicals and Office Utilities

Like most of its other expense projections, the Company determined the three-year, pre-fire average amount for the three years ended September 30, 2016, and inflated the pre-fire average for 27 months (7.58%) and divided by the three-year average number of customers to determine the expense amount per customer. The per-customer amount was then multiplied by a projected 313 customer count to arrive its Attrition Year forecast of Chemicals of $243 and Office Utilities of

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[33] Tennessee Water Service's Late Filed Exhibits, Exhibit 6, Schedule 7 (September 10, 2019).
[34] William H. Novak, Pre-filed Testimony, pp. 13-14 (July 12, 2019).
[35] *Id.*

$2,386.[36] The Consumer Advocate, however, used the post-fire test year ended September 30, 2018, as its basis for projecting one account comprising the Chemicals expense and one account comprising the Office Utilities expense.[37] Other than pointing out that the landscaping expense dropped significantly during the test period, the Consumer Advocate did not explain why it used the post-fire amounts for these two accounts as opposed to the pre-fire average it used for all the other accounts which make up these expense categories.[38]

Here, the Hearing Panel found it reasonable and consistent to use the pre-fire average for all accounts. Therefore, the Chemicals and Office Utilities expense forecasts was computed by inflating the pre-fire average by 7.58% to determine a per-customer amount and then multiplying that amount by 311 customers projected for the Attrition Year. Based on this calculation, the Hearing Panel voted unanimously to adopt Chemicals expense of $241 and Office Utilities expense of $2,370.

C.4. Outside Services and Rent

With respect to Outside Services and Rent, the Company based its forecasts on the three-year, pre-fire average amount inflated by 7.58% just as it did with most of its other expenses. However, the Company added pro-forma adjustments for these two expense categories. The Company made pro-forma adjustments to reflect an estimated corporate allocation of Outside Services and estimated new corporate office rent, neither of which was included in the test period. As adjusted to reflect these pro-forma items, the Company forecasted Outside Services of $5,842 and Rent of $2,047.[39] The Consumer Advocate used a three-year, pre-fire average inflated by 5.85% to determine an Attrition Year forecast of $1,986 for Outside Services and $1,492 for Rent.[40]

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[36] Anthony Gray, Pre-filed Direct Testimony, p. 3 (February 28, 2019).
[37] William H. Novak, Pre-filed Direct Testimony, CA Exhibit, Schedule 7 (July 12, 2019).
[38] *Id.* at 16.
[39] Tennessee Water Service's Late-Filed Exhibits, Exhibit 6, Schedule 7, (September 10, 2019).
[40] William H. Novak, Pre-filed Direct Testimony, p. 14 (July 12, 2019).

The primary differences between the Company and the Consumer Advocate are the pro-forma adjustments added by the Company.

The Hearing Panel found the pro-forma adjustments for Outside Services and Rent appear reasonable and reflect known and measurable adjustments. Using a forecast based on a three-year, pre-fire average inflated by 7.58%, as applied to projected Attrition Year customers of 311, to arrive at Outside Services of $2,041 and Rent of $1,517 with the addition of the Company's pro-forma adjustments, the Hearing Panel voted unanimously to adopt Outside Services of $5,829 and Rent of $2,037.

C.5. Purchased Water

With respect to Purchased Water, in projecting Attrition Year expense the Company computed the average per-customer purchased water for the year ended September 30, 2018, inflated by 7.58%, and multiplied by an annual customer count of 311 to arrive at an Attrition Year forecast of $116,937. Embedded in this amount is a lost and unaccounted for water rate of 71.52%. The Consumer Advocate computed the average per-customer purchased water for the three years ended September 30, 2016, inflated that amount by 5.85%, and applied the projected customer count of 311 to arrive at $60,295 of purchased water expense for the Attrition Year.[41] Embedded in the Consumer Advocate's forecast is an average lost and unaccounted for water rate of 14.83%.

The Company's purchased water forecast is 94% greater than the Consumer Advocate's. The primary difference is the much higher water loss rate included in the Company's forecast. The Company's use of the test year ended September 30, 2018, likely explains the higher water loss rate than the pre-fire rate assumed by the Consumer Advocate. During the Company's test year, the system was still undergoing major fire damage repairs and recovery. Since those recovery efforts are largely completed, water loss rates during the Attrition Year should normalize to pre-fire levels.

[41] *Id.*, at 18.

Indeed, since much of the system has been replaced with new plant, it is reasonable to assume that future water loss rates should decline over historic levels. For these reasons, the Hearing Panel accepted the Consumer Advocate's methodology for computing purchased water with the application of an inflation factor of 7.58% to the pre-fire average. Thus, the Hearing Panel voted unanimously to adopt Purchased Water of $61,301 for the Attrition Year.

C.6. Bad Debt Expense

With respect to Bad Debt, the Company projected bad debt based upon the booked amount for the year ended September 30, 2018, expressed as a percentage of water sales for the same period, and it then applied this percentage to its projected water sales for the Attrition Year to arrive at $1,187. The Consumer Advocate used the per-customer average for the three years ended September 30, 2016, inflated by 5.85% and multiplied by the projected customer count of 311 to arrive at its Attrition Year forecast of $600. Staff reviewed the calculations of both parties and found them to be accurate. A concern here is the Company's projection essentially doubled the historic average of bad debt expense. No evidence was offered to support such a sharp increase in bad debt expense over historic pre-fire levels. Here, the methodology of the Consumer Advocate, which normalizes the forecast based on pre-fire operations, provides a reasonable and acceptable basis for determining Attrition Year bad debt expense. For these reasons, the Hearing Panel voted unanimously to adopt Bad Debt expense of $610 for the Attrition Year.

C.7. Salary and Wages

With respect to Salary and Wages, the Company projected salary and wages based upon the amounts booked for the year ended September 30, 2018, reduced by a non-recurring amount and by capitalized labor to arrive at its Attrition Year forecast of $20,170. The Consumer Advocate used a three-year, pre-fire average inflated by 5.85%, and applied to the Attrition Year customer count of

311 to arrive at its Salary and Wage forecast of $27,639.[42] The Consumer Advocate did not reduce its forecast to reflect capitalized labor.

The panel found that the Company's projection is based on a more recent booked amount that better reflects current employee levels while also recognizing adjustments for non-recurring and capitalized labor amounts. Therefore, the Hearing Panel voted unanimously to adopt Salaries and Wages of $20,170 for the Attrition Year.

D. DEPRECIATION AND AMORTIZATION EXPENSES

Below is a table outlining each party's forecast and the Commission's decision with respect to Depreciation and Amortization Expenses:

	Company	Consumer Advocate	Commission Decision
Depreciation	$ 42,735	$ 42,735	$ 42,735
Amortz. CIAC	(15,213)	(15,213)	(15,213)
Amortz. Excess Deferred Taxes	(2,245)	(2,769)	(2,769)
Amortz. ITC	(48)	(48)	(48)
Amortz. Deferred Operating Losses	41,788	20,894	20,894
Amortz. Deferred Return on Incremental Plant	17,298	8,649	5,757
Amortz. Deferred Rate Case Cost	17,940	17,940	20,638
Amortz. Uninsured Property	(5,730)	(11,619)	(5,730)
Total	$ 96,525	$ 60,569	$ 66,264

D.1. Depreciation Expense

With respect to Depreciation Expense, the Company originally projected $39,613 for Depreciation Expense; in its Late-Filed Exhibit, however, the Company agreed with the Consumer Advocate's projected $42,735 Depreciation Expense.[43] The Consumer Advocate began with December 2019 depreciation expense in the amount of $3,239 based on a balance of $2,590,658.

[42] William H. Novak, Pre-filed Direct Testimony, p. 19 (July 12, 2019).

[43] Tennessee Water Service's Late-Filed Exhibits, Exhibit 6, Schedule 6 (September 10, 2019).

Thereafter, the Consumer Advocate applied .13% to the average balance to determine the monthly depreciation for the Attrition Year. The twelve-month total is $42,735. The Hearing Panel voted unanimously to adopt Depreciation Expense for the Year in the amount of $42,735.

D.2. Amortization of Contributions in Aid of Construction

With respect to Amortization of Contributions in Aid of Construction, the Company and the Consumer Advocate projected the Attrition Year expense based upon the twelve month amortization ($1,268 * 12) of this account resulting in amortization of $15,213. The Hearing Panel found the calculations were accurate and corresponded to the amortization utilized in determining the Attrition Year Contribution in Aid of Construction balance. For these reasons, the Hearing Panel voted unanimously to adopt $15,213 as the Amortization of Contributions in Aid of Construction.

D.3. Amortization of Regulatory Liability Excess Deferred Taxes

With respect to Amortization of Regulatory Liability Excess Deferred Taxes, the Company adopted in a late-filed exhibit the amount of $2,245. The Consumer Advocate projected the Attrition Year balance to be $2,769. The Hearing Panel found the Consumer Advocate's calculations to be accurate and the amortization correlates to the Regulatory Liability Excess Deferred Tax projected balance of $71,917 adopted by both parties. For these reasons, the Hearing Panel voted unanimously to adopt $2,769 for the Amortization of Regulatory Liability Excess Deferred Taxes.

D.4. Amortization of Investment Tax Credits

With respect to the Amortization of Investment Tax Credits, both the Company and the Consumer Advocate agree on the Attrition Year amount of $48. This amount is based upon an amortization of $4.00 per month being applied to the unamortized investment tax credit balance.

The Hearing Panel found the calculations to be accurate and voted unanimously to adopt $48 as the Amortization of Investment Tax Credit for the Attrition Year.

D.5. Amortization of Deferred Operating Losses

In Commission Docket No. 17-00108, the Company was authorized to establish a regulatory account to defer operating losses.[44] Additionally, the Commission delayed setting an amortization period until the Company's rate proceeding where recovery would be addressed.[45]

Both parties agree on the Deferred Operating Loss balance at the end of the Test Year of $208,941. The difference between the parties for this expense is the Company amortized this amount over five years, while the Consumer Advocate amortized this amount over ten years. Whether to amortize for five or ten years or any period is a matter of reasonableness may be employed to prevent or lessen rate shock to consumers. Here, ratepayers are burdened with significant additional cost resulting from the wildfires and the longer amortization period minimizes the monthly bill increase. For this reason, the Hearing Panel found a ten-year amortization period for Deferred Operating Loss to be appropriate and voted unanimously to adopt Amortization of Deferred Operating Losses of $20,894.

D.6. Amortization of Deferred Return on Incremental Plant

Both parties agree on the Deferred Return on Incremental Plant balance at the end of the Test Year of $86,486, with the Company recommending an annual amortization of $17,297, and the Consumer Advocate recommending $8,648.[46] The reason for the difference between the parties for this amortization expense is the Company amortized this amount over five years, while the Consumer Advocate chose a ten-year amortization period.

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[44] *In re: Petition of Tennessee Water Service, Inc. for Approval of an Interim Emergency Wildfire Restoration Surcharge, Interim Emergency Water Service Availability Surcharge, Interim Emergency Make-Whole Surcharge, and an Interim Emergency Operation Cost Pass-Through Mechanism*, Docket No. 17-00108, *Final Order*, p. 10 (February 21, 2018).

[45] *Id.*

[46] William H. Novak, Pre-filed Direct Testimony, p. 32 (July 12, 2019).

Imputing the Company's proposed regulatory liability amount of $382,016 and recalculating the deferred returns using the same methodology as the parties, the Deferred Return on Incremental Plant balance at the end of the Test Year is $57,574. Taking into consideration the rate impact on customers, particularly the burden of significant additional costs resulting from the wildfires, a longer amortization period which minimizes the monthly bill increase is reasonable. Therefore, the Hearing Panel voted unanimously to adopt a ten-year amortization period for Deferred Return on Incremental Plant as appropriate and Amortization of Deferred Return on Incremental Plant of $5,757.

D.7. Amortization of Deferred Rate Case Costs

The Company originally proposed $21,691, however, the Company later agreed with and adopted the Consumer Advocate's projected $17,940 for the Attrition Year.[47] The Consumer Advocate based its projection on costs of $30,000 as cap in Commission Docket No. 17-00108 plus an estimated cost of $59,700 for this docket with a five-year amortization period.[48] The Company has supplemental rate case expense of $13,488[49] in this case and amortized this amount over five years as well to bring the total annual amortization to $20,638. The Hearing Panel found that considering TWS is a small company and that there was more than one hearing, along with the complex facts of this case, allowing recovery of the supplemental rate case expense is reasonable. For these reasons, the Hearing Panel found the five-year amortization period of rate case cost to be appropriate and voted unanimously to adopt $20,638 as Amortization of Deferred Rate Case Costs for the Attrition Year.

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[47] Tennessee Water Service's Late-Filed Exhibits, Exhibit 6, Schedule 6 (September 10, 2019).
[48] William H. Novak, Pre-filed Direct Testimony, p. 33 (July 12, 2019).
[49] *TWS Supplemental Hearing Costs Filing*, (October 17, 2019).

D.8. Amortization of Uninsured Property

With respect to the Commission's finding of a Regulatory Liability for Uninsured Property by taking the Company's proposed amount of $382,016, a Majority of the Hearing Panel voted that this amount shall be amortized over 66.67 years (1.5% amortization rate) through the Attrition Year to arrive at the midpoint balance of $8,041 of accumulated amortization and annual amortization expense of $5,730 ($382,016 * 1.5%). [50]

E. GENERAL TAXES

General Taxes consist of Payroll, Franchise, Gross Receipts, Property and Commission Regulatory Fees. The chart below provides a breakdown of the General Taxes category, the positions of the parties, and the decision of the Commission.

	Company	Consumer Advocate	Commission Decision
Payroll	$ 1,940	$ 723	$ 1,940
Franchise	1,792	1,122	1,122
Gross Receipts	3	144	144
Property	15,139	18,188	18,188
Utility Commission	0	267	1,054
Total	$ 18,874	$ 20,444	$ 22,448

E.1. Payroll Taxes

The Company's projected Salary & Wage expense of $20,170 is based upon the booked amount for the year ended September 30, 2018. The corresponding payroll tax general ledger amount at September 30, 2018 was adjusted consistent with the Salary and Wage adjustment to arrive at an Attrition period expense of $1,940. The Consumer Advocate based its projection of $723 upon the average of pre-fire years and inflated for 21 months (5.85%).[51] The Company's forecast corresponds to payroll tax general ledger amount at September 30, 2018 and was adjusted

[50] *See* Findings with respect to Rate Base in Section *G.9. Regulatory Liability – Uninsured Property* of this Order. Commissioner Hilliard dissented from the Majority decision with respect to the amount of the regulatory liability.
[51] William H. Novak, Pre-filed Direct Testimony, p. 21 (July 12, 2019).

consistent with the Salary and Wage adjustment. For this reason, the Hearing Panel voted unanimously to adopt the Company's projected Payroll Expense of $1,940.

E.2. Franchise Tax

The Company projected $1,792 franchise taxes using the same amount of the Test Year ending September 30, 2016. The Consumer Advocate calculated the per customer average franchise tax based up FY 14-15-16 ($3.41) times the number of customers (311) times the 21-month inflation factor of 5.85% to determine franchise taxes of $1,122 and more accurately reflect an appropriate level of Attrition Period expense. For this reason, the Hearing Panel voted unanimously to adopt $1,122 as Franchise Taxes for the Attrition Year.

E.3. Gross Receipts Tax

The Company projected the gross receipt tax year amount of $3 based solely on the Test Year amount. The Consumer Advocate calculated the Test Year average per customer of $0.44 times the number of customers (311) times the 21-month inflation rate of 5.85% to arrive at $144. The Consumer Advocate's methodology and calculation more accurately reflect an appropriate level of Attrition Year expense. For this reason, Hearing Panel voted unanimously to adopt $144 as Gross Receipts tax for the Attrition Year.

E. 4. Property Tax

The Company used the general ledger amount for the real estate tax account ($8,383) and the general property tax account balance ($6,757) for the operating company and the parent at September 30, 2018 to calculate $15,139 in property taxes for the Attrition Year. The Consumer Advocate used the post-fire average per customer for general taxes times the customer count of 311 ($9,804) to determine general property taxes. Real estate taxes ($8,383) were based solely on the booked amount for the October 1, 2017 to September 30, 2018. The total Attrition Year taxes are projected to be $18,188.

Here, the panel found the methodology used by the Consumer Advocate is preferable because it is based upon a customer count which should be more reflective of actual costs. For this reason, the Hearing Panel voted unanimously to adopt $18,188 for Property Tax Expense for the Attrition Year.

E. 5. Inspection Fees

The Company projected zero for Inspection fees and the Consumer Advocate projected $267.[52] Pursuant to Tenn. Code Ann. §65-4-303, regulatory inspection fees are based upon the gross receipts, before any deductions, of the previous year. In its *Petition,* the Company listed Test Year revenues of $86,295 and the Consumer Advocate listed Test Year revenues of $86,299. The Company under-billed customers for the previous year, due to the mis-application of their tariff. The Company should take greater care in applying its tariff correctly. For this reason, Hearing Panel calculates the inspection fee of $1,054 based upon the projected Attrition Year revenues of $253,701, less bad debt expense of $610. (($248,782-$610-$5,000)/1,000) *$4.25).

F. State Excise and Federal Income Taxes

Excise Taxes are calculated by applying the statutory rate of 6.5 % to Net Income before Federal Income Taxes. Federal Income Taxes are calculated by applying the statutory rate of 21% to Net Income less Excise Taxes. Based upon the Net Income adopted by the Hearing Panel, State Excise Taxes of negative $783 and Federal Income Taxes of negative $2,366 are adopted for the Attrition Year.

G. Rate Base

Rate Base is the total of the investor funded or supplied plant, facilities, and other investments used by the utility in provisioning service to its customers. Thus, Rate Base represents the investment on which a fair rate of return is applied to arrive at the net operating income

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[52] William H. Novak, Pre-filed Direct Testimony, p. 21 (July 12, 2019).

requirement. The following table presents the comparative Rate Base calculations of the Company, the Consumer Advocate, and the Hearing Panel's decision:

Attrition Year	Company	Consumer Advocate	Commission Decision
Additions:			
Utility Plant In Service	$ 2,624,827	$ 2,624,827	$ 2,624,827
Working Capital	15,798	12,612	12,827
Deferred Operating Losses	198,494	198,494	198,494
Deferred Return on Incremental Plant Investment	82,162	82,162	54,695
Deferred Rate Case Cost	80,730	80,730	92,869
Total Additions	$ 3,002,011	$ 2,998,825	$ 2,983,712
Deductions:			
Acc. Depreciation	$ 436,926	$ 436,926	$ 436,926
CIAC	633,347	633,347	633,347
Acc. Deferred Income Taxes	57,687	57,687	57,687
Reg.Liability - Excess Deferred Taxes	71,917	71,917	71,917
Reg.Liability- Uninsured Property	382,016	757,006	372,193[53]
Total Deductions	$ 1,581,893	$ 1,956,883	$ 1,572,070
RATE BASE	$ 1,420,118	$ 1,041,942	$ 1,411,642

G.1. Utility Plant In Service

Utility Plant In Service represents the gross property, plant and equipment employed by the utility to provide service to customers. The Consumer Advocate computed Utility Plant In Service by starting with the September 30, 2018 plant account balances of $1,819,060 for the utility and the allocated plant of $26,317 from the parent company.[54] Anticipated projects in the amount of

[53] Commissioner Hilliard dissented from the Majority's decision, stating the regulatory liability should have been for the full 757,000 investment. Transcript of Commission Conference, pp. 30-31 (November 4, 2019).

[54] William H. Novak, Pre-filed Direct Testimony, pp. 23-24 (July 12, 2019).

$870,530 were added and $91,081 was deducted for projected retirements. The two major assets added were for tank/booster station rehabilitation placed in service in January 2019 for $331,483, and well/booster station rehabilitation placed in service in June 2019 for $443,126. These rehabilitation projects were necessary to recover the system from damages sustained as a result of the 2016 wildfires.[55] The Company agreed with the Consumer Advocate's projected $2,624,827 Plant in Service for the Attrition Year.[56]

The Hearing Panel found the methodology and outcome used by the Consumer Advocate reasonable and voted unanimously to adopt Plant In Service of $2,624,827 for the Attrition Year.

G.2. Working Capital

Working Capital represents the utility's investment in the cash-on-hand requirement needed to pay its bills timely. For small company rate cases such as this one, working capital requirements are generally computed by taking one-eighth of net cash operating expenses (i.e., expenses that require cash payments to vendors), which equates to a 45-day lag (365/8). Purchased water, however, may be excluded based on the contention that this expense is paid for after associated revenues are received.

The Company computed Working Capital by adding Maintenance Expense, General Expense, and General Taxes forecasted for the Attrition Year and multiplying the total by one-eighth, which results in a Working Capital Allowance of $15,798. The Consumer Advocate calculated Working Capital by <u>adding</u> its forecasted Attrition Year Maintenance Expense, General Expense, Other Operating Expense, and General Taxes and <u>subtracting</u> Purchased Water, and then multiplying the total by one-eighth, which results in a Working Capital Allowance of $12,612.[57]

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[55] J. Bryce Mendenhall, Pre-filed Direct Testimony, pp. 4-5 (February 28, 2019).
[56] Tennessee Water Service's Late Filed Exhibits, Exhibit 6, Schedule 2 (September 10, 2019).
[57] William H. Novak, Pre-filed Direct Testimony, CA Exhibit, Schedule 4.

The Hearing Panel found the Consumer Advocate's methodology to be consistent with sound ratemaking principles. Moreover, the Company's methodology excludes forecasted Other Operating Expense without explanation. With adjustments for forecasts for Maintenance Expense, General Expense, Other Operating Expense, General Taxes and Purchased Water, the Hearing Panel voted unanimously to adopt a Working Capital Allowance of $12,827 for the Attrition Year.

G. 3. Deferred Operating Losses

Because of the devastating wildfires in November 2016 that caused the Company to lose over 90% of its customer base, the Commission in Docket No. 17-00108 authorized the Company to create a regulatory asset account to defer its reasonable operating losses from January 1, 2017 through this rate case proceeding. [58]

The Company sought $245,305 in operating losses through December 2018 which it proposed to recover over a five-year period with an annual amortization of $49,061.[59] The Company further proposed recovery of 2019 losses in a separate surcharge outside of the rate case.[60]

The Consumer Advocate computed the Deferred Operating Loss by starting with the balance in the regulatory asset account of $208,941 as of September 30, 2018. This balance agrees with the Company's response to Commission Staff's data request of August 28, 2019, which appropriately includes the revenue generated from the $7.00 service charge increase authorized by the Commission in Docket No. 17-00108. The Consumer Advocate then selected a ten-year amortization period for recovery of the deferred losses, which results in an annual amortization

[58] *In re: Petition of Tennessee Water Service, Inc. for Approval of an Interim Emergency Wildfire Restoration Surcharge, Interim Emergency Water Service Availability Surcharge, Interim Emergency Make-Whole Surcharge, and an Interim Emergency Operation Cost Pass-Through Mechanism*, Docket No. 17-00108, *Final Order*, p. 10 (February 21, 2018).
[59] Dante M. DeStefano, Pre-filed Direct Testimony, p. 7 (February 28, 2019).
[60] *Id.* 8.

amount of $20,894 ($208,941/10).[61] It then applied monthly amortization of $1,741 ($208,941/(10*12)) through the Attrition Year to arrive at the midpoint account balance of $198,494 for the Attrition Year. This amount represents the average unrecovered operating losses deferred from January 1, 2017 through September 30, 2018, on which the Company should earn a fair return.

Further, consistent with the Commission's order in Docket No. 17-00108, the Consumer Advocate recommends the Company be allowed to continue deferring its operational losses for the period October 1, 2018 until the new rates ordered in this proceeding become effective on January 1, 2020.[62] The Company will be allowed recovery of these additional deferred losses in a future rate proceeding. The Company came to agree with the Consumer Advocate's projected $198,494 of deferred losses.[63]

The Hearing Panel found the Consumer Advocate's methodology complied with the Commission's Final Order in Docket No. 17-00108, and adopted a ten-year amortization period for Deferred Operating Losses and voted unanimously to adopt average Deferred Operating Losses of $198,494, as well as annual amortization of $20,894, for the Attrition Year. Additionally, pursuant to the Commission's order in Docket No. 17-00108, the Hearing Panel directed the Company to continue deferring its reasonable operating losses for the period of October 1, 2018 through December 31, 2019 for potential future recovery.

G.4. Deferred Return on Incremental Plant Investment

In Docket No. 17-00108, the Commission authorized the Company to create a regulatory asset to account for the returns on the plant investments required to recover the system from the

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[61] William H. Novak, Pre-filed Direct Testimony, p. 29 (July 12, 2019).
[62] *Id.*
[63] Tennessee Water Service's Late Filed Exhibits, Exhibit 6, Schedule 2 (September 10, 2019).

2016 wildfires.[64] The order permitted the returns to be computed from the time such new plant was placed in service until this rate case proceeding at the then-authorized rate of return of 6.89%.[65] The primary investments made during this time was the tank/booster station rehabilitation project of $331,483 placed in service in January 2019 and the well/booster station rehabilitation project of $443,126 placed in service in May 2019, along with additional, smaller incremental plant additions.[66]

The Consumer Advocate computed the Deferred Return on Incremental Plant Investment by determining actual and forecasted plant additions, depreciation, and plant retirements for the period January 1, 2017 through December 31, 2019, and then applying the annual return of 6.89% to the resulting net plant investments over this period. Using this methodology, the Consumer Advocate calculated deferred returns of $86,486 for the period.[67] The Consumer Advocate then selected a ten-year amortization period for recovery of the deferred returns and then applied monthly amortization of $721 ($86,486/ (10*12)) through the Attrition Year to arrive at the midpoint account balance of $82,162 for the Attrition Year.[68] The Company adopted the Consumer Advocate's projected $82,162 in a late-filed exhibit.[69]

The Hearing Panel found the methodology and calculations of the Consumer Advocate to be accurate and reasonable. Nevertheless, the deferred returns should take into account the Company's admission of liability for failure to properly insure the destroyed assets. The Consumer Advocate did not reduce the deferred returns for any imputed insurance proceeds that may have been collected

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[64] *In re: Petition of Tennessee Water Service, Inc. for Approval of an Interim Emergency Wildfire Restoration Surcharge, Interim Emergency Water Service Availability Surcharge, Interim Emergency Make-Whole Surcharge, and an Interim Emergency Operation Cost Pass-Through Mechanism*, Docket No. 17-00108, *Final Order*, p. 10 (February 21, 2018).
[65] *Id.*
[66] J. Bryce Mendenhall, Pre-filed Direct Testimony, pp. 4-5 (February 28, 2019); Dante M. DeStefano, Pre-filed Direct Testimony, Schedule C (February 28, 2019).
[67] William H. Novak, Pre-filed Direct Testimony, p. 32 (July 12, 2019).
[68] *Id.*
[69] Tennessee Water Service's Late-Filed Exhibits, Exhibit 6, Schedule 3 (September 10, 2019).

if the assets were insured. Taking into account the Majority's decision with respect to the finding of a regulatory liability for a lack of sound insurance coverage, the Majority of the Hearing Panel found it appropriate to reduce the deferred returns by imputing $382,016 of putative insurance proceeds to offset the tank/booster and well/booster rehabilitation projects.[70] Using the same methodology as the Consumer Advocate, but for the insurance imputation, the Hearing Panel found deferred returns of $57,574 for the period January 1, 2017 through December 31, 2019. The Hearing Panel voted unanimously to adopt the ten-year amortization period for recovery of the deferred returns and then applied monthly amortization of $480 ($57,574/ (10*12) through the Attrition Year to arrive at the midpoint account balance of $54,695 for the Attrition Year and an annual amortization amount of $5,757 ($480*12).

G.5. Deferred Rate Case Cost

In Docket No. 17-00108, the Commission authorized the Company to defer up to $30,000 of the costs for that case for recovery in this proceeding.[71] The Company filed information showing that the costs for Docket No. 17-00108 were $48,757.[72] The Company further filed information showing forecasted costs of $59,700 for the hearing on the merits in the current docket and $13,488 of costs for the supplemental hearing in this docket.

The Consumer Advocate began with the Test Year balance of $48,757 and adjusted it to the $30,000 cap set by the Commission in Docket No. 17-00108.[73] Projected costs for this docket of $59,700 were added to produce a balance of $89,700. A five-year amortization period was selected and monthly amortization of $1,495 ($89,700/(5*12)) was applied through the Attrition Year to

[70] *See* Section *G.9. Regulatory Liability – Uninsured Property* of this Order; Commissioner Hilliard dissented with the Majority of the Hearing Panel with respect to the insurance related regulatory liability determination.

[71] *In re: Petition of Tennessee Water Service, Inc. for Approval of an Interim Emergency Wildfire Restoration Surcharge, Interim Emergency Water Service Availability Surcharge, Interim Emergency Make-Whole Surcharge, and an Interim Emergency Operation Cost Pass-Through Mechanism*, Docket No. 17-00108, *Final Order*, p. 10 (February 21, 2018).

[72] *Tennessee Water Service Inc. Response to TPUC Data Request*, DR2, #4 (August 28, 2019).

[73] William H. Novak, Pre-filed Direct Testimony, p. 33-34 (July 12, 2019).

arrive at an average Attrition Year balance of $80,730 for Rate Base and annual amortization of $17,940 ($1,495*12) for expenses.[74] In the original filing, the Company did not project any rate case costs; however, the Company agreed with the Consumer Advocate's projected amount of $80,730 in a late-filed exhibit.[75]

The Hearing Panel found the calculations of the Consumer Advocate to be accurate. Based upon the late-filed exhibit, the Company also agreed with the Consumer Advocate's calculations and five-year amortization period. However, neither the Consumer Advocate nor the Company updated its exhibits to include the $13,488[76] of costs for the supplemental hearing. The Hearing Panel found it appropriate to add these costs to Deferred Rate Case Cost and determined the estimated rate case costs to be $103,188. Applying a five-year amortization period with a monthly amortization of $1,720 ($103,188/(5*12) through the Attrition Year, the Hearing Panel voted unanimously to adopt an average Attrition Year balance of $92,869 for Rate Case Cost and annual amortization of $20,638 ($1,720*12) for expenses.

G.6. Accumulated Depreciation

Accumulated Depreciation recognizes all of the prior depreciation of plant, and this account is netted against gross plant to arrive at the net plant amount on which the Company should earn a fair rate of return. The Consumer Advocate calculated Attrition Year Accumulated Depreciation by using the Test Year balance of $459,597 and adding depreciation expense recognized for the Test Year of $68,410 and subtracting the accumulated depreciation associated with retirements (removal of plant) in the amount of $91,081.[77] In a late-filed exhibit, the Company revised its Accumulated Depreciation amount to agree with the Consumer Advocate in the amount of $436,926.[78]

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[74] *Id.*
[75] Tennessee Water Service's Late Filed Exhibits, Exhibit 6, Schedule 2 (September 10, 2019).
[76] *TWS Supplemental Hearing Costs Filing*, (October 17, 2019).
[77] William H. Novak, Pre-filed Direct Testimony, p. 25 (July 12, 2019).
[78] Tennessee Water Service's Late Filed Exhibits, Exhibit 6, Schedule 2 (September 10, 2019).

The Hearing Panel found the calculations accurate and reasonable and voted unanimously to adopt the Consumer Advocate's result of an average Accumulated Depreciation of $436,926 for the Attrition Year.

G.7. Contributions In Aid of Construction

Contributions In Aid of Construction generally represent investments in utility plant that are funded by the utility's customers, developers, or other outside parties. Since the utility's investors did not have any capital outlay associated with these investments, they should not be permitted to earn a return on them. Thus, Contributions In Aid of Construction are deducted from Rate Base to reduce the investment base on which a fair return is computed. Contributions In Aid of Construction are amortized as an offset to depreciation expense over the life of the contributed plant.

The Company and the Consumer Advocate agree that the balance of this account is $633,347.[79] This is based upon the September 2018 account balance of $659,969 with monthly amortization of $1,268 applied for 21 months to arrive at an average balance of $633,347 for the Attrition Year. The Hearing Panel found the calculations accurate and voted unanimously to adopt Contributions In Aid of Construction of $633,347 for the Attrition Year.

G.8. Accumulated Deferred Income Taxes

Accumulated Deferred Income Taxes ("ADIT") recognize that the utility may generally deduct more expenses for tax purposes than for regulatory purposes in the same accounting period, thereby reducing its tax liability in the current year. The most significant portion of ADIT relates to differences in the methods used for computing depreciation expense for tax purposes versus ratemaking purposes. Because these differences cause the utility to pay lower taxes in the current year than the amount of taxes collected from customers through service rates, the benefit of the

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[79] *Id.*

preferential tax treatment is flowed through to customers by deducting the ADIT from Rate Base in order to offset the returns paid by customers to the investors.

The Consumer Advocate computed ADIT by starting with the Test Year balance for the operating company and the parent in the amount of $54,013.[80] Additions to the deferred account were made by using the midpoint balance of the tax effect on the depreciation timing differences of new assets placed in service in the amount of $3,675. In late-filed exhibit, the Company revised its ADIT amount to agree with the Consumer Advocate in the amount of $57,687.[81]

The Hearing Panel found the calculation to be accurate and voted unanimously to adopt ADIT of $57,687 for the Attrition Year.

G.9. Regulatory Liability – Excess Deferred Taxes

The Regulatory Liability for Excess Deferred Taxes represents the amount of excess ADIT that should be returned to ratepayers as a result of the Tax Cuts and Jobs Act. Since the corporate tax rate was reduced from 35% to 21%, the booked amount of ADIT was reduced to recognize that the associated deferred taxes will be paid in the future at the new 21% rate, rather than the higher 35% rate that was in effect when the taxes were originally deferred. The amount of the ADIT reduction, or Excess Deferred Taxes, was collected from customers through rates, but since the higher taxes will never be paid due to the reduction in the corporate tax rate, they must be returned to the ratepayers. Amortization of a regulatory liability is the mechanism used to effectuate the return of Excess Deferred Taxes.

With regard to the amortization of Excess Deferred Taxes, the IRS requires Excess Deferred Taxes related to depreciation timing differences on certain assets to be amortized over the life of the related assets. This category is known as protected Excess Deferred Taxes. Both the Consumer Advocate and the Company agree that protected Excess Deferred Taxes should be amortized over

[80] *Id.* at 26.
[81] Tennessee Water Service's Late-Filed Exhibits, Exhibit 6, Schedule 2 (September 10, 2019).

49 years.[82] The Test Period amount of protected Excess Deferred Taxes of $72,183 was amortized through the Attrition Year at $123 per month ($72,183/(49*12)) to arrive at a midpoint protected Excess Deferred Taxes balance of $69,973 for the Attrition Year.

With regard to unprotected Excess Deferred Taxes, the IRS allows state commissions to choose any amortization period for return of this amount to ratepayers. The Consumer Advocate recommended a three-year amortization period and amortized the Test Period amount of unprotected Excess Deferred Taxes of $3,888 through the Attrition Year at $108 per month ($3,888/(3*12)) to arrive at a midpoint unprotected Excess Deferred Taxes balance of $1,944 for the Attrition Year. Initially, the Company recommended a five-year amortization period for unprotected Excess Deferred Taxes; however, in a late filed exhibit, the Company revised its Regulatory Liability for Excess Deferred Taxes to agree with the Consumer Advocate.[83]

The Hearing Panel found the Consumer Advocate's calculations to be accurate and voted unanimously to adopt a total Regulatory Liability for Excess Deferred Taxes of $71,917 ($69,973 protected plus $1,944 unprotected) and annual amortization of $2,769.

G.10. Regulatory Liability – Uninsured Property

The Consumer Advocate proposed a Regulatory Liability for Uninsured Property of $757,006 based on its contention that some of the assets destroyed by the wildfires should have been fully covered by insurance.[84] According to the Consumer Advocate, had such insurance coverage been properly in place, the Company would have collected sufficient insurance proceeds to replace the destroyed assets, thereby eliminating the need for investor-funded investments for such replacements and, consequently, lowering the Rate Base on which a return is paid by customers.

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[82] William H. Novak, Pre-filed Direct Testimony, p. 26 (July 12, 2019);
[83] Tennessee Water Service's Late-Filed Exhibits, Exhibit 6, Schedule 3 (September 10, 2019).
[84] William H. Novak, Pre-filed Direct Testimony, p. 38 (July 12, 2019).

Thus, the Regulatory Liability for Uninsured Property recommended by the Consumer Advocate essentially removes the rate impact of replacing the destroyed assets. Effectively, the regulatory liability amount proposed here requires the Company to shoulder the full cost of the investments made to recover from the wildfire that the Consumer Advocate contends should have been fully insured. The Consumer Advocate's intent is to completely offset the tank/booster station rehabilitation project costing $331,483 placed in service in January 2019 and a well/booster station rehabilitation project costing $443,126 placed in service in May 2019.[85]

As such, the Consumer Advocate computed a Regulatory Liability for Uninsured Property by taking the cost of the uninsured replacements and amortizing them over 66.67 years (1.5% amortization rate) which is the same as the economically useful life of the assets recognized in the Plant In Service and related Depreciation calculations.[86] Using this methodology, the Consumer Advocate computed accumulated amortization of the regulatory liability through the Attrition Year to arrive at the midpoint balance of $14,175 of accumulated amortization and annual amortization expense of $11,619. The Consumer Advocate also determined the ADIT related to the uninsured assets by computing the tax effect on the deprecation timing differences of uninsured assets through the midpoint of the Attrition Year to arrive at an incremental ADIT balance of $3,426. Based on these calculations, the Consumer Advocate computed and recommended a Regulatory Liability for Uninsured Property of $757,006 ($331,483 + $443,126 - $14,175 - $3,428).

Here, the Company admitted that some of the destroyed property was under-insured and that a Regulatory Liability is appropriate to recognize the Company's failure to properly insure the plant.[87] Thus, the issue is not whether the Company was imprudent. With the Company's admission, the issue for the Hearing Panel is the extent to which its failure should be recognized in

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[85] *Id.*
[86] *Id.*
[87] Transcript of Hearing, pp. 40-41, 50 (September 9, 2019); Transcript of Commission Conference, p. 70 (October 14, 2019).

new rates. The Company contends that, based upon a proxy project completed in nearby Sugar Mountain, North Carolina immediately prior to the November 2016 wildfires, the Company should have insured the destroyed plant for $432,016.[88] The Company asserts this level of insurance coverage would have been reasonable because it is based upon the actions the Company should have taken in 2016 to insure the property in light of the information available to the Company at that time.[89] As the insurance policy the Company has in place for other assets contains a $50,000 casualty loss deductible, the Company asserts that a Regulatory Liability for Uninsured Property of $382,016 should be recognized ($432,016 - $50,000).[90]

The Consumer Advocate, however, argues the Company's assumptions and computations are too speculative and hypothetical to be used for ratemaking purposes. The Consumer Advocate maintains the Sugar Mountain proxy project is a diversionary and unsupported assertion and not comparable to the Company's Chalet Village projects at issue in this docket and, therefore, should be rejected.[91] The Company maintains that it would be unreasonable to use hindsight to hold it accountable for the unforeseen circumstances of the wildfires that devastated the system.[92]

In response to the destruction of the wildfires, the Company invested $757,006 to re-establish water service to replace assets it concedes were not properly insured. The Company has taken responsibility for the lack of insurance and has agreed to absorb half of those costs to replace the property damaged by the wildfires.[93] The Company maintains its proposition is not an arbitrary splitting of the baby, but rather based on several arguments, including the use of a proxy as a basis of insurance coverage it should have had.

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[88] J. Bryce Mendenhall, Pre-filed Rebuttal Testimony, pp. 6-7 (August 16, 2019).
[89] J. Bryce Mendenhall, Supplemental Rebuttal Testimony, pp. 3-4 (October 9, 2019).
[90] J. Bryce Mendenhall, Rebuttal Testimony, p. 7 (August 16, 2019).
[91] William H. Novak, Pre-filed Second Supplemental Testimony, p. 6-7 (October 7, 2019).
[92] Transcript of Hearing, p. 53 (September 9, 2019).
[93] *Id.*

Company witness Bryce Mendenhall testified that the Sugar Mountain project should have been used by the Company at that time to determine an appropriate replacement cost for insurance coverage of the destroyed assets. In support of the Sugar Mountain proxy, the Company asserted the geography, common materials, labor, and other costs such as engineering and design relatively comparable between the Sugar Mountain and Chalet Village booster station projects.[94] Mr. Mendenhall also testified that disasters, such as the wildfires, can create a premium on reconstruction of damaged assets due to supply and demand pressure on contract labor and materials and that the Company received only one qualified bid to complete the rehabilitation projects at Chalet Village.[95] The Company reported that only one bid was received for the replacement of the booster station and only one bid was received for the Clubhouse project from a bidder with qualifications and certification.[96]

A basic tenet of just and reasonable rates requires a utility to have the opportunity to earn a reasonable rate of return for investments for used and useful plant.[97] Rates should be fair to both the ratepayer and the utility. On one hand, the Consumer Advocate frames this matter as a near zero-sum proposition in which the full cost of the replacements should be removed from rate base as a result of the Company's imprudence. However, the Majority of the panel found that requiring the Company to forgo 100% of its investment through the application of hindsight three years after the wildfires and the rebuilding of assets destroyed in the fire would be punitive and unreasonable.

Based on the evidentiary record before it, a Majority of the Hearing Panel found the regulatory liability amount proposed by the Company to be reasonable.[98] This result requires the

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[94] *Id.* at 167-169.
[95] J. Bryce Mendenhall, Pre-filed Rebuttal Testimony, p. 6 (August 16, 2019).
[96] *Id.*
[97] *Bluefield Water Works and Improvement Company v. Public Service Commission of the State of West Virginia*, 262 U.S. 679, 692-693 (1923).
[98] Commissioner Herbert H. Hilliard dissented from the Majority- Transcript of Commission Conference, pp. 30-31 (November 4, 2019): "Commissioner Hilliard: I voted no primarily because I think the company should have had to put aside $700,000. I thought their explanation for why they were not adequately insure the facilities was inadequate. I

Company to forgo 49.3% of the total cost of replacement while providing the customers with the benefit of replacement assets that will have a longer service life. One must consider the age of the plant that was replaced and the circumstances in which it was replaced. The destroyed well and tank booster stations were existing when the Company acquired the utility and was granted its certificate of convenience and necessity ("CCN") in 1984, making the plant more than 30 years old at the time of the 2016 wildfires. The tank and well booster stations have been completely replaced with new plant that will undoubtedly serve the customers far longer than the destroyed plant would have. Moreover, it is reasonable to assume that routine maintenance and repair costs will decline in the foreseeable future due to the replacement of the aging assets with new plant. Customers therefore will likely receive the benefits of longer service life and reduced costs due to the installation of the new plant.

Further, the Commission does not by rule or order specifically require utilities to fully insure against all possible casualty losses or otherwise endorse specific insurance coverage parameters, although insurance coverage or the reasonableness of a policy is certainly a consideration for the Commission. A public utility does not have license to conduct its affairs recklessly. Nevertheless, the Commission has authorized recovery of nonrecurring, extraordinary costs from ratepayers for uninsured casualty losses that were beyond the utility's control. For instance, in Docket Nos. 08-00201, 12-00051, and 13-00121, the Commission authorized the creation of regulatory assets for recovery of storm-damage costs from ratepayers incurred as a result of devastating winter storms.[99] And in Docket No. 11-00180 the Commission authorized Berry's Chapel Utility, Inc. to create a

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also thought it was very negligent not to insure something at a bare premium where the deductible was higher than what you'd actually get paid if you actually had a loss."

[99] *See In Re: Entergy Arkansas, Inc's Proposed Storm Damage Rider*, Docket No. 08-00201, *Order Approving Storm Damage Rider*, (February 2, 2009); *In Re: Petition of Kingsport Power Company D/B/A AEP Appalachian Power to Implement a Storm Damage Rider Tariff for Recovery of Storm Costs*, Docket No. 12-00051, *Order Approving Proposed Tariff*, p. 4 (November 28, 2012); *In Re: Petition of Kingsport Power Company D/B/A AEP Appalachian Power fro Approval of Deferred Accounting*, Docket No. 13-00121, *Order Approving Request to Defer Storm Cost,* p.2 (October 16, 2014).

regulatory asset for recovery of specific flood-damage costs from ratepayers incurred as a result of catastrophic flooding that occurred in Middle Tennessee in May 2010.[100] The wildfires in 2016 certainly qualify as an extraordinary event beyond the control of a public utility. Thus, it is consistent with the Commission's prior ratemaking decisions and policy to permit the Company to recover the uninsured casualty losses sustained in this case which were undoubtedly extraordinary and beyond the utility's control.

Finally, allowing the Company recovery of costs related to restoring the water system from the fire damage is consistent with the Commission's previous order on this issue in Docket No. 17-00108. In that docket, the Commission authorized the Company to establish a regulatory asset to accrue and defer the returns on the capital projects necessary to repair the fire damage and restore the system to operational status. Those capital projects have been identified in this proceeding as the tank and well booster station rehabilitation projects. And by entering the rate order in Docket No. 17-00108, the Commission determined that probable future recovery of the capital costs related to these projects was proper and in accordance with the ratemaking and regulatory accounting principles established by the Commission's Uniform System of Accounts.

Based on the foregoing, the Majority of the Hearing Panel authorized a Regulatory Liability for Uninsured Property by taking the proposed amount of $382,016 amortized over 66.67 years (1.5% amortization rate) through the Attrition Year to arrive at the midpoint balance of $8,041 of accumulated amortization and annual amortization expense of $5,730 ($382,016 * 1.5%). The ADIT related to the underlying property was determined by computing the tax effect on the deprecation timing differences through the midpoint of the Attrition Year to arrive at an incremental ADIT balance of $1,782. Based on these calculations, the Majority of the Hearing Panel voted to authorize a Regulatory Liability for Uninsured Property of $372,193 ($382,016 - $8,041 - $1,782).

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[100] *See In Re: Petition of Berry's Chapel Utility, Inc. to Recover Costs to Repair Flood Damage and to Refund Customer Service Fees*, Docket No. 11-00180, *Final Order*, pp. 15-17, (August 21, 2012).

H. Revenue Conversion Factor

The Revenue Conversion Factor represents the multiple figure needed to convert the operating revenue deficiency to the revenues necessary to the produce that income. Specifically, taxes and other fees must be collected on top of the revenue in order for the necessary amount of revenues to be collected by the Company to cover its revenue deficiency. As stated by the Consumer Advocate, the Commission traditionally includes the forfeited discount in its revenue conversion factor and the Company offers no explanation for its exclusion.[101] The Advocate further states that the Commission has also traditionally treated the inspection fee as a prepaid tax instead of including it as a component of the revenue conversion factor.

The Hearing Panel voted unanimously to adopt a forfeited discount factor of 0.014773, an uncollectible ratio of 0.002452, a state excise tax rate of 6.5% and a federal income tax rate of 21% which yields a recommended revenue conversion factor of 1.337392.

I. Rate of Return and Cost of Capital

The goal of regulatory rate setting is to ensure a fair rate of return on a company's investments while ensuring the safety and reliability of the service provided. The fair rate of return standard descends from court decisions in the *Hope* and *Bluefield* cases.[102] A fair rate of return is achieved when (1) the return is comparable to other businesses that bear similar risks; (2) the allowed return is sufficient to ensure financial integrity; and (3) the company can attract, at reasonable cost, credit to meet its capital requirements.

The Company proposes a capital structure that is a 50%/50% split of long-term debt and equity. The Company notes that this capital structure is consistent with the recent history of TWS's

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[101] William H. Novak, Pre-filed Direct Testimony, p. 42 (July 12, 2019).

[102] *Bluefield Water Works & Improvement Co. v. P.S.C. of West Virginia*, 262 U.S. 679 (1923) and F.P.C. v. Hope Natural Gas Co., 320 U.S. 591 (1944).

parent, Utilities, Inc. ("UI"). TWS is a wholly-owned subsidiary of UI.[103] The Company proposes a cost of equity of 10.50%. The Company and its parent company are not publicly traded. The Company estimates the cost equity for use in the proceeding using an ensemble of the discounted cash flow and capital asset pricing models applied to a comparison group of natural gas and water utilities.[104] The Company proposes a cost of debt of 5.04%. [105] The resulting overall rate of return based upon the Company's capital structure, debt cost, and equity return is 7.77%.[106]

The Consumer Advocate notes that, for this case, it "has no objection to the Cost of Capital proposed by the Company that produces an overall return of 7.7%."[107] Based upon the positions taken by the parties, there is no controversy concerning the overall cost of capital of 7.77%. At the Hearing, Consumer Advocate witness Novak stated that "It's my understanding that the company and the Consumer Advocate had agreed to the cost of capital prior to the company's filing" and "we are not contesting the company's cost of capital."[108]

The Company proposes a capital structure that is a 50%/50% split of long-term debt and equity. Similarly, in an order issued February 21, 2019, the North Carolina Utilities Commission established a capital structure of 50.91% equity and 49.09% long-term debt for an affiliate of TWS.[109] As such, the panel found the proposed capital structure of a 50%/50% split of long-term debt and equity is reasonable for use in this proceeding. Similarly, the North Carolina Commission set the cost of debt to be 5.68%. The panel also found the proposed debt cost in this proceeding of 5.04% is comparable and thus, reasonable.

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[103] Dante M. DeStefano, Pre-filed Direct Testimony, p. 10 (February 29, 2019).
[104] Jared Deason, Pre-filed Direct Testimony, p. 23 (February 29, 2019).
[105] Dante M. DeStefano, Pre-filed Direct Testimony, p. 10 (February 29, 2019).
[106] *Id.*
[107] William H. Novak, Pre-filed Direct Testimony, p. 40 (July 12, 2019).
[108] Transcript of Hearing. p. 195 (September 9, 2019)
[109] Tennessee Water Service Inc's Responses to First Informal Discovery Request of the Consumer Advocate Unit Item 6 (April 10, 2019).

The Hearing Panel voted unanimously to adopt the 7.77% overall rate of return and the 10.5% equity return. The related Interest Expense is calculated by applying the adopted weighted cost of debt to the adopted rate base amount. Using the adopted rate base of $1,411,642 and weighted cost of debt of 2.52%, Interest Expense for the Attrition Year is $35,573, the Hearing Panel voted unanimously to adopt Interest Expense for the Attrition Year of $35,573.

J. Revenue Deficiency

Based upon the foregoing, the Majority of the Hearing Panel found that the Company will experience a Revenue Deficiency of $111,020 for the Attrition Year ending December 31, 2020, at presently-authorized service rates. Thus, new rates should be designed and implemented which will generate additional annual water service revenues of $111,020. This increase in revenues will afford the Company a reasonable opportunity to earn its recommended fair rate of return of 7.77%

K. Rate Design and Other Tariff Changes

Rate design covers the manner in which new rates reflecting the revenue deficiency are recovered from customers. This section also includes changes to the tariff, or terms and conditions of service.

K.1. Rate Design

The Company proposed to phase in rates over a three-year period in order to avoid rate shock, but it should be noted that TWS requested $300,444 in additional revenues – an amount that exceeds the Majority Panel's revenue deficiency of $111,020. TWS is also proposed new rates for private fire service. The Company's proposed rate design was as follows:

	Current	Year 1	Year 2	Year 3
Monthly Flat Rate (Includes 2,000 gallons)	$25.70	$50.00	$74.00	$94.00
Per Gallon Charge (Over 2,000 Minimum)	$13.30	$16.50	$19.00	$20.65

Private Fire Service				
Multi-Use Line	$ 0.00	$11.33	$24.00	$35.80
Fire Only Line	$ 0.00	$22.67	$48.00	$71.60

Based upon the Company's recommended rate design, which includes a lower monthly average water usage level, the average monthly water bill would be approximately $125 prior to sales tax.

The Consumer Advocate calculates a revenue deficiency of $73,087, and the following rates without a phase in:[110]

	Current	Proposed
Monthly Flat Rate (Includes 1,000 gallons)	$25.70	$33.39
Per Gallon Charge (Over 1,000 Minimum)	$13.30	$17.28

While the Consumer Advocate does not oppose the implementation of private fire service, it does not believe that TWS has identified a significant need for the tariff and has not presented justification to support the proposed rates.[111] Based upon the Consumer Advocate's recommended rate design, the average monthly water bill would be approximately $87 prior to sales tax.

The goal of overall rate design is to establish a system of rates that will enable a utility to generate sufficient revenues to cover expenses needed to operate the utility, plus an equity return for investors. There are often, however, many factors that are taken into consideration when designing rates, including those related to economics and social considerations. For example, a social consideration may be to establish rates for residential customers that are affordable but not necessarily reflective of the actual cost of service. Thus, in some cases, rates for certain services or classes of services (i.e., industrial and large commercial) may be priced further above cost in order

[110] William H. Novak, Pre-filed Direct Testimony, p. 45-46 (July 12, 2019).
[111] William H. Novak, Pre-filed Supplemental Testimony, pp. 4-5 (July 31, 2019).

to maintain residential services at affordable rates. In this case, however, TWS serves only residential customers so the revenue deficiency must be recovered solely from residences.

As concluded herein the Majority of the Hearing Panel calculated an annual revenue deficiency of $111,020 which is based upon forecasted attrition period revenues, expenses, applicable taxes, and a rate base with a fair return. Many factors go into these calculations and especially important to rate design is forecasted attrition period number of customers and average customer water usage. Since revenue calculations are based upon 3,732 annual customer bills with an average monthly usage number 4,080 gallons, it is appropriate to also use these amounts in order develop a rate design that will recover the necessary annual revenue deficiency.

Here, there are primarily two rate components: (1) an existing flat monthly rate of $25.70 which includes a set amount of usage [currently it includes the initial 1,000 gallons of usage] and (2) an existing $13.30 charge for each additional 1,000 gallons used above the minimum. Since rates were established in the emergency petition in Docket No. 17-00108, however, the Company has incorrectly applied its tariff by including 2,000 gallons in the minimum monthly flat rate and charging usage rates in excess of 2,000 gallons used monthly.[112] This is most unfortunate as it may cause much confusion for ratepayers when rates are changed.

The Hearing Panel found that the Company's proposed private fire service offerings are reasonable and also recommends approval of the proposed rates which are expected to generate additional revenues of $1,289 annually, leaving the remaining $109,731 revenue deficiency to be collected from the monthly flat rate and water usage component. Based upon this remaining revenue deficiency, the Hearing Panel voted unanimously to adopt a Monthly flat rate of $50.00 for the first 1,000 gallons of water used. Any additional water used beyond the first 1,000 gallons is

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[112] William H. Novak, Pre-filed Direct Testimony, p. 12 (July 12, 2019).

subject to a volumetric charge of $14.95 per 1,000 gallons. A comparison between the prior rates and the new rates is below.

	Current	**Commission**
Monthly Flat Rate (Includes 1,000 gallons)	**$25.70**	**$50.00**
Per Gallon Charge (Each additional 1,000 gallons)	**$13.30**	**$14.95**

In this case, the Consumer Advocate used average water usage based upon the three years preceding the wildfire to compute rates. The rationale is that current volumes may not be as reliable due to a number of factors. Illustrative of this fact is that the Company's most recent two years of water usage indicates a water loss percentage of 30.43% for the twelve months ending September 30, 2017 and 71.52% for the ending September 30, 2018. The historical water loss percentage for the three years prior to the wildfires averaged only 14%. Moreover, the Company's recent volumes could be impacted by water used in company testing and maintenance of facilities, construction clean-up and possibly other factors such as the size of new homes, newer construction efficiencies and water conservation efforts of consumers. Due to these uncertainties, the rate design adopted by the Hearing Panel increases the Company's fixed revenue recovery to approximately 52% of total revenues, thereby minimizing the revenue impacts of potentially inaccurate water usage levels and high water loss percentages. In this manner, the Company's revenues are more likely to remain stable, and thus more predictable, by recovering more fixed costs through fixed charges, as opposed to relying on the recovery of fixed charges through revenue streams collected via volumetric usage charges. Based upon the proposed customer levels and average water usage, the average water bill will be approximately $96 monthly.

K.2. Operational Cost Pass Through Mechanism

In Docket No. 17-00108, the Commission implemented an Interim Emergency Operational Cost Pass Through Mechanism ("OCPTM") as proposed by TWS and modified by the Consumer

Advocate.[113] This mechanism authorized TWS to pass through to customers nondiscretionary increases or decreases in costs incurred for purchased water and purchased electricity such that if the price of purchased water or electricity increased or decreased, the Company could adjust customer rates accordingly. In fact, the tariff required TWS to make semi-annual filings with the Commission to adjust customer rates for changes in these expenses; however the Company never made the requisite filings to utilize the mechanism.

In the instant docket, TWS wants to make the mechanism permanent because it argues the overall rate proposal does not include a method to recover increases in production costs. Additionally, the Company contends the OCPTM will provide benefits beyond the attrition year where variable costs will inevitably rise.[114] The Consumer Advocate reasons that the mechanism be terminated because it is recommending that the Company be allowed to continue deferring operating losses through December 31, 2019.[115] The Consumer Advocate argues this deferment makes the continuation of the mechanism no longer necessary.

The panel found that the uncertainty in water usage levels as discussed above makes it difficult to calculate an accurate amount of purchased water. Additionally, this uncertainty makes it difficult to establish a baseline for the amount of electricity needed to pump the water. Moreover, the panel further found that the Company's overall operations during the near future could be quite volatile (not just purchased water and electricity) due the number of customers added, changes in water usage, and efficiencies experienced with a more efficient water system. Thus, it is quite likely that a review of rates will be necessary in the next two years once these variables are better known. Accordingly, the Hearing Panel voted unanimously to terminate this mechanism until such

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[113] *In re: Petition of Tennessee Water Service, Inc. for Approval of an Interim Emergency Wildfire Restoration Surcharge, Interim Emergency Water Service Availability Surcharge, Interim Emergency Make-Whole Surcharge, and an Interim Emergency Operation Cost Pass-Through Mechanism*, Docket No. 17-00108, *Final Order*, p. 11 (February 21, 2018).
[114] Dante M. DeStefano, Pre-filed Direct Testimony, pp. 6-7 (August 16, 2019).
[115] William H. Novak, Pre-filed Rebuttal Testimony, pp. 43-44 (July 12, 2019).

time that the Company's operations are more stable so a sound baseline can be established on which to compare future changes.

K.3. Qualified Infrastructure Improvement Program

The Company proposed a Qualified Infrastructure Improvement Program ("QIIP") mechanism to be implemented in order for the Company to recover its qualifying incremental non-revenue producing plant infrastructure investment relating to:

> *Distribution Infrastructure* – a Replacement distribution and transmission mains and valves installed as replacements for existing facilities, reinforcement of existing facilities or otherwise ensuring reliability of existing facilities; Hydrants, Services, Meters and Meter Installations – installed as in-kind replacements, reinforcements or ensuring reliability of existing facilities; Unreimbursed funds related to capital projects to relocate facilities required by government highway projects; Capitalized tank repairs and maintenance that serve to replace, reinforce, otherwise ensure reliability of existing facilities.
>
> *Production and Pumping Infrastructure* – Replacement of water treatment facilities and equipment installed as replacements for existing facilities, reinforcements of existing facilities or otherwise ensuring reliability of existing facilities; Raw Water and Finished Water pumping equipment and structures installed as replacements, reinforcements or otherwise reliability of existing facilities.[116]

In essence the Company would provide a forecast of QIIP investment and begin collecting appropriate carrying charges via a customer surcharge. At year end, TWS would true-up the budget to actual investment along with a true-up over/under collections from consumers. The Consumer Advocate offered no opinion on this mechanism.

The Hearing Panel found the QIIP was not in the public interest at this time and voted unanimously that the request be denied. The main emphasis has been and should continue to be for TWS to build facilities necessary to service customers. Within the QIIP, the Company plans to establish more reliable facilities and improve them. While added reliability is important, the emphasis has to be to provide basic service that is reasonably affordable. In light of the major rate

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[116] Dante M. DeStafano, Pre-filed Direct Testimony, Exhibit 7, Original Sheet No. 19 (February 28, 2019).

increases that customers are about to realize, adding infrastructure that is not absolutely necessary to actually serve customers at this time could very well make rates unaffordable and unreasonable.

However, the Hearing Panel noted that if a project becomes necessary to furnish service, and absent repairing or replacing the infrastructure would result in inadequate or loss of service, the Company may petition for emergency relief in the form of additional deferred accounting and present its case. Moreover, if a local government entity requires the utility to replace, move or otherwise cause the Company to spend money on capital projects, the Company has the option to file an emergency petition for necessary relief. Finally, the Company's earnings volatility in the near future will make it quite likely that an overall review of rates will be necessary in the next two years.

K.4. Other Miscellaneous Tariff Changes

In addition to the aforementioned tariff provisions relating to the private fire service, OCPTM, and the QIIP, TWS provides several other miscellaneous tariff changes in its tariff.

In addition to requiring a third party to pay the new 21% tax rate on all Contribution-in-aid of Construction ("CIAC"), TWS proposes to also collect the 6.5% Tennessee state excise tax rate on CIAC. The Consumer Advocate, however, correctly points out the Tennessee state excise tax does not apply to CIAC.[117] Moreover, the Commission decided this very topic in its order issued on October 1, 2018, in Docket 18-00001, *Order Approving Staff Report and Recommendation.* [118] Within that order, the Commission ordered all small water and wastewater utilities to file a tariff with a CIAC gross up factor of 26.58%, which excludes excise tax. TWS, however, failed to

[117] William H. Novak, Pre-field Supplemental Testimony, p. 2 (July 31, 2019).
[118] *In Re: Tennessee Public Utility Commission Investigation of Impacts of Federal Tax Reform on the Public Utility Revenue Requirements*, Docket No. 18-00001, *Order Approving Staff Report and Recommendations*, pp. 3-4.

submit the required tariff. The Consumer Advocate had no objection to the remaining miscellaneous changes to TWS's tariff.[119]

The Hearing Panel directed TWS to file a tariff for CIAC reflecting a 26.58% gross up factor and to file the specific tariff language attached to the October 1, 2018 order issued in Docket No. 18-00001 and voted unanimously to approve the remaining miscellaneous tariff changes.

IT IS THEREFORE ORDERED THAT:

1. The rates filed by Tennessee Water Service, Inc. on February 28, 2019 are denied;

2. For purposes of the rates herein, the attrition period Revenues for the twelve months ending December 31, 2020, are $248,782 in Water Sales and $4,919 in other Revenues, and a forfeited discount rate of 1.4773%;

3. For purposes of the rates herein, the Operations and Maintenance Expenses for the attrition period are $141,466.

4. For purposes of the rates herein, Depreciation Expense for the attrition period is $42,735; (2) Amortization of Contributions in Aid of Construction of $15,213; and (3) Amortization of Investment Tax Credit of $48.

5. The (1) Amortization of Regulatory Liability for Excess Deferred Taxes of $2,769, with a 49-year amortization period for Protected Excess Deferred Taxes and a three-year amortization period for Unprotected Excess Deferred Taxes; and (2) Amortization of Regulatory Liability for Uninsured Property of $5,730, with a 66.67-year amortization period consistent with the associated uninsured plant.

6. The (1) a ten-year amortization period for Deferred Operating Loss with an annual amortization of $20,894; (2) a ten-year amortization period for Deferred Return on Incremental Plant Investment with an annual amortization of $5,757; and (3) a five-year amortization period for Deferred Rate Case Expense with an annual amortization of $20,638. The Company is authorized

[119] William H. Novak, Pre-filed Supplemental Testimony, pp. 4-5 (July 31, 2019).

to continue deferring its reasonable operating losses as agreed to by the parties through December 31, 2019, for potential future recovery.

7. For purposes of the rates herein, the Net State Excise Tax is calculated using the statutory rate of 6.5% and Federal Income Taxes are calculated using the 21% statutory rate for the for the attrition period. Other Taxes for the attrition period are approved as follows: Payroll Tax of $1,940, Franchise Tax of $1,122, Gross Receipts Tax of $144, Property Tax of $18,188; and Inspection Fees of $1,054.

8. For purposes of the rates herein, Rate Base is $1,411,642 for the attrition period;

9. For purposes of the rates herein, the Net Operating Income is $26,672 for the attrition period based on current rates prior to application of taxes for additional attrition period revenues;

10. For purposes of the rates herein, the overall Revenue Conversion Factor of 1.337392 based upon a forfeited discount factor of 0.014773, an uncollectible ratio of 0.002452, a state excise tax rate of 6.5% and a federal income tax rate of 21%.

11. For purposes of the rates herein, the capital structure is composed of 50.00% debt and 50.00% equity; debt cost of 5.04% and an equity return of 10.50% with an overall rate of return of 7.77%;

12. For purposes of the rates herein, using the adopted Rate Base of $1,411,642 and weighted cost of debt of 2.52%, Interest Expense is calculated in the amount of $36,573 for the attrition period.

13. For purposes of the rates herein, the Revenue Deficiency of $111,020 is established for the attrition period.

14. The Monthly Flat Rate for the first 1,000 gallons of water usage shall be increased from $25.70 to $50.00 per month.

15. The volumetric charge for each 1,000 gallons above the first 1,000 gallon water usage shall be increased from $13.30 to $14.95 per 1,000 gallons.

16. The proposed Private Fire Service rates of $35.80 for multi-use lines and $71.60 for Fire-Only lines are approved.

17. The existing Interim Emergency Operational Cost Pass Through Mechanism is terminated.

18. The proposed Qualified Infrastructure Improvement Program surcharge is denied as it is not in the public interest at this time.

19. Tennessee Water Service Inc. is to file a tariff regarding Contributions in Aid of Construction to reflect a 26.58% gross up factor, and to file the specific tariff language attached to the October 1, 2018 order issued in Commission Docket No. 18-00001.

20. The rates approved herein shall become effective January 1, 2020.

21. Any person who is aggrieved by the Commission's decision in this matter may file a Petition for Reconsideration with the Commission within fifteen days from the date of this Order; and

22. Any person who is aggrieved by the Commission's decision in this matter has the right to judicial review by filing a Petition for Review in the Tennessee Court of Appeals, Middle Section, within sixty days from the date of this Order.

Chair Robin L. Morrison and Commissioner David F. Jones concur. Commissioner Herbert H. Hilliard dissents in part where noted herein.

ATTEST:

Earl Taylor

Earl R. Taylor, Executive Director

TENNESSEE PUBLIC UTILITY COMMISSION

Ratemaking Schedules

TPUC Docket 19-00028

Petition of Tennessee Water Service, Inc. for Adjustment of Rates And Charges, Approval of a Qualified Infrastructure Investment Program, and Modification to Certain Terms and Conditions for the Provision of Water Service

TENNESSEE WATER SERVICE, INC
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TENNESSEE WATER SERVICE, INC
Results of Operations
For the 12 Months Ending December 31, 2020

Line No.		Amount
1	Rate Base	$1,411,642
2	Operating Income At Current Rates	26,672
3	Earned Rate Of Return	1.89%
4	Fair Rate Of Return	7.77%
5	Required Operating Income	109,685
6	Operating Income Deficiency	83,012
7	Gross Revenue Conversion Factor	1.337392
8	**Revenue Deficiency**	**$111,020**

TENNESSEE WATER SERVICE, INC
Average Rate Base
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
	Additions:			
1	Utility Plant in Service	$1,845,378	$779,449	$2,624,827
2	Working Capital	18,455	(5,629)	12,827
3	Deferred Operating Losses	208,941	(10,447)	198,494
4	Deferred Return on Incremental Plant Investment	20,475	34,220	54,695
5	Deferred Rate Case Costs	48,757	44,112	92,869
6	**Total Additions**	**$2,142,006**	**$841,706**	**$2,983,712**
	Deductions:			
7	Accumulated Depreciation	$459,597	($22,671)	$436,926
8	Contributions in Aid of Construction	659,969	(26,622)	633,347
9	Accumulated Deferred Income Taxes	54,013	3,674	57,687
10	Regulatory Liability - Excess Deferred Taxes	99,031	(27,114)	71,917
11	Regulatory Liability - Uninsured Property	0	372,193	372,193
12	**Total Deductions**	**$1,272,610**	**$299,460**	**$1,572,070**
13	**Rate Base**	**$869,396**	**$542,245**	**$1,411,642**

TENNESSEE WATER SERVICE, INC
Working Capital Allowance
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
1	Maintenance Expenses	$93,143	($52,874)	$40,269
2	General Expenses	15,645	3,471	19,116
3	Other Operating & Maintenance Expenses	89,767	(7,685)	82,082
4	General Taxes	17,362	5,086	22,448
5	**Total Operating Expenses**	**$215,917**	**($52,003)**	**$163,914**
6	Less Purchased Water Expense	68,275	(6,974)	61,301
7	**Net Operating Expenses**	**$147,642**	**($45,029)**	**$102,613**
8	**Working Capital (1/8th of Net Operating Expenses)**	**$18,455**	**($5,629)**	**$12,827**

TENNESSEE WATER SERVICE, INC
Income Statement at Current Rates
For the 12 Months Ending December 31, 2020

Line No.		Test Period	Adjustments	Attrition Period
	Operating Revenues:			
1	Water Sales Revenues	$86,299	$162,483	$248,782
2	Other Revenues	95,318	(90,399)	4,919
3	**Total Operating Revenues**	**$181,617**	**$72,084**	**$253,701**
	Operating & Maintenance Expenses:			
4	Maintenance Expenses	$93,143	($52,874)	$40,269
5	General Expenses	15,645	3,471	19,116
6	Other Operating & Maintenance Expenses	89,767	(7,685)	82,082
7	**Total Operating & Maintenance Expenses**	**$198,555**	**($57,089)**	**$141,466**
	Other Expenses:			
8	Depreciation Expense	$27,999	$14,736	$42,735
9	Amortization of Contributions in Aid of Construction	(15,119)	(94)	(15,213)
10	Amortization of Regulatory Liability - Excess Deferred Taxes	0	(2,769)	(2,769)
11	Amortization of Investment Tax Credits	(48)	0	(48)
12	Amortization of Deferred Operating Losses	0	20,894	20,894
13	Amortization of Deferred Return on Incremental Plant	0	5,757	5,757
14	Amortization of Deferred Rate Case Costs	0	20,638	20,638
15	Amortization of Regulatory Liability - Uninsured Property	0	(5,730)	(5,730)
16	General Taxes	17,362	5,086	22,448
17	State Excise Taxes	0	(783)	(783)
18	Federal Income Taxes	0	(2,366)	(2,366)
19	**Total Other Expenses**	**$30,194**	**$55,368**	**$85,562**
20	**Total Operating Expenses**	**$228,749**	**($1,720)**	**$227,029**
21	**Utility Operating Income**	**($47,132)**	**$73,804**	**$26,672**

TENNESSEE WATER SERVICE, INC
Operations and Maintenance Expense Summary
For the 12 Months Ending December 31, 2020

Line No.		Amount
	Maintenance Expenses:	
1	Purchased Power	$8,667
2	Maintenance & Repair	23,622
3	Maintenance Testing	1,908
4	Chemicals	241
5	Transportation	2
6	Outside Services	5,829
7	**Total Maintenance Expenses**	**$40,269**
	General Expenses:	
8	Office Supplies & Other Office Expenses	$2,935
9	Pension & Other Benefits	6,880
10	Rent	2,037
11	Insurance	3,379
12	Office Utilities	2,370
13	Miscellaneous	1,515
14	**Total General Expenses**	**$19,116**
	Other Expenses:	
15	Purchased Water	$61,301
16	Bad Debt	610
17	Regulatory	0
18	Salary & Wages	20,170
19	**Total Other Expenses**	**$82,082**
20	**Total Operations and Maintenance Expense**	**$141,466**

TENNESSEE WATER SERVICE, INC
Taxes Other than Income Income Taxes
For the 12 Months Ending December 31, 2020

Line No.		Amount
1	Payroll Tax Expense	$1,940
2	Franchise Tax Expense	1,122
3	Gross Receipts Tax Expense	144
4	Property Tax Expense	18,188
5	Utility Commission Fee Expense	1,054
6	**Total**	**$22,448**

TENNESSEE WATER SERVICE, INC
Excise and Income Taxes
For the 12 Months Ending December 31, 2020

Line No.		Amount
1	**Operating Revenues**	**$253,701**
	Operating Expenses:	
2	O&M Expenses	$141,466
3	Depreciation Expense	42,735
4	Net Amortization Expense	23,529
5	General Taxes	22,448
6	**Total Operating Expenses**	**$230,178**
7	**NOI Before Excise and Income Taxes**	**$23,523**
8	Interest Expense	35,573
9	**Net Income Income Before Income Taxes**	**($12,051)**
	Tennessee Excise Tax Calculation:	
10	Net Income Before Income Taxes	($12,051)
11	Excise Tax Rate	6.50%
12	**Excise Tax Expense**	**($783)**
	Federal Income Tax Calculation:	
13	Net Income Before Income Taxes	($12,051)
14	State Excise Tax Expense	(783)
15	**Net Income Before Federal Income Tax**	**($11,267)**
16	FIT Rate	21.00%
17	**Federal Income Tax Expense**	**($2,366)**

TENNESSEE WATER SERVICE, INC
Income Statement at Proposed Rates
For the 12 Months Ending December 31, 2020

Line No.		Current Rates	Rate Increase	Proposed Rates
	Operating Revenues:			
1	Water Sales Revenues	$248,782	$111,020	$359,802
2	Other Revenues	4,919	1,640	6,559
3	**Total Operating Revenues**	**$253,701**	**$112,660**	**$366,361**
	Operating & Maintenance Expenses:			
4	Maintenance Expenses	$40,269	$0	$40,269
5	General Expenses	19,116	0	19,116
6	Other Operating & Maintenance Expenses	82,082	276	82,358
7	**Total Operating & Maintenance Expenses**	**$141,466**	**$276**	**$141,743**
	Other Expenses:			
8	Depreciation Expense	$42,735	$0	$42,735
9	Amortization of Contributions in Aid of Construction	(15,213)	0	(15,213)
10	Amortization of Regulatory Liability - Excess Deferred Taxes	(2,769)	0	(2,769)
11	Amortization of Investment Tax Credits	(48)	0	(48)
12	Amortization of Deferred Operating Losses	20,894	0	20,894
13	Amortization of Deferred Return on Incremental Plant	5,757	0	5,757
14	Amortization of Deferred Rate Case Costs	20,638	0	20,638
15	Amortization of Regulatory Liability - Uninsured Property	(5,730)	0	(5,730)
16	General Taxes	22,448	0	22,448
17	State Excise Taxes	(783)	7,305	6,522
18	Federal Income Taxes	(2,366)	22,067	19,700
19	**Total Other Expenses**	**$85,562**	**$29,372**	**$114,934**
20	**Total Operating Expenses**	**$227,029**	**$29,648**	**$256,676**
21	**Utility Operating Income**	**$26,672**	**$83,012**	**$109,685**

TENNESSEE WATER SERVICE, INC
Rate of Return Summary
For the 12 Months Ending December 31, 2020

Line No.	Class of Capital	Percent of Total	Cost Rate	Weighted Cost Rate
1	Debt	50.00%	5.04%	2.52%
2	Equity	50.00%	10.50%	5.25%
3	**Total**	**100.00%**		**7.77%**
	Interest Expense:			
4	Rate Base			$1,411,642
5	Weighted Debt Cost			2.52%
6	**Interest Expense**			**$35,573**

TENNESSEE WATER SERVICE, INC
Revenue Conversion Factor
For the 12 Months Ending December 31, 2020

Line No.		Amount	Balance
1	Operating Revenues		1.000000
2	Add: Forfeited Discounts	0.014773	0.014773
3	Balance		1.014773
4	Uncollectible Ratio	0.002452	0.002488
5	Balance		1.012284
6	State Excise Tax	0.065000	0.065798
7	Balance		0.946486
8	Federal Income Tax	0.210000	0.198762
9	Balance		0.747724
10	**Revenue Conversion Factor (Line 1 / Line 9)**		**1.337392**

TENNESSEE WATER SERVICE, INC
Rate Design
For the 12 Months Ending December 31, 2020

Line No.		Bills/Usage	Current Rate	Current Revenue	Proposed Rate	Proposed Revenue	Revenue Increase
	Water Sales:						
1	**Attrition Period Bills**	3,732	$25.70	$95,912	$50.00	$186,600	$90,688
	Attrition Period Usage:						
2	Step 1 - 0 to 1,000 Gallons/Month	3,732	$0.00	$0		$0	$0
3	Step 2 - Over 1,000 Gallons/Mont	11,494	$13.30	152,869	$14.95	171,834	18,965
4	**Total Usage Revenue**	15,226		$152,869		$171,834	$18,965
5	**Attrition Period Sales Revenue**			**$248,782**		**$358,434**	**$109,653**
	Private Fire Service:						
6	Multi-use Line	36	$0.00	$0	$35.80	$1,289	$1,289
7	Fire-Only Line	0	$0.00	0	$71.60	0	0
8	**Attrition Period Private Fire Service**			**$0**		**$1,289**	**$1,289**
9	**Attrition Period Other Revenue**			**$4,919**		**$4,919**	**$0**
10	**Total Attrition Period Revenues**			**$253,701**		**$364,642**	**$110,941**
11					**Revenue Deficiency**		111,020
12					**Rate Design Difference**		**$79**