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BEFORE
THE TENNESSEE PUBLIC UTILITY COMMISSION

Petition of Chattanooga Gas Company for Approval of an Adjustment in Rates and Tariff; the Termination of the AUA Mechanism and the Related Tariff Changes and Revenue Deficiency Recovery; and an Annual Rate Review Mechanism	)	Docket No. 18-00017

DIRECT TESTIMONY
of
WILLIAM H. NOVAK

ON BEHALF OF

THE CONSUMER PROTECTION AND ADVOCATE DIVISION
OF THE
OFFICE OF THE TENNESSEE ATTORNEY GENERAL

July 3, 2018

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ATTACHMENTS

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

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

Q2. PLEASE PROVIDE A SUMMARY OF YOUR BACKGROUND AND PROFESSIONAL EXPERIENCE.

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

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

[1] State of Tennessee, Registered Accounting Firm ID 3682.

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

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

Q3. ON WHOSE BEHALF ARE YOU TESTIFYING?

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

Q4. HAVE YOU PRESENTED TESTIMONY IN ANY PREVIOUS DOCKETS REGARDING CHATTANOOGA COMPANY?

A4. Yes. I've presented testimony in TPUC Docket Nos. U-85-7382, 88-01363, 90-08876, 91-03765 and 93-06946 concerning rate cases involving Chattanooga Gas Company (CGC or Company) as well as dockets for other generic tariff and rulemaking matters. In addition, I previously advised the Commission on issues in other CGC dockets in cases where I did not present testimony.

Q5. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A5. My testimony will support and address the Consumer Advocate's positions and concerns with respect to the Company's Petition. Specifically, I will address the following:

1. The Consumer Advocate's proposed attrition period revenue calculations;
2. The Consumer Advocate's proposed attrition period rate base calculations with the exception of deferred taxes and working capital; and
3. The Consumer Advocate's proposed rate design and tariff changes.

I will also be presenting testimony related to the Company's proposal to change regulatory accounting methodology for pension expense and the Company's proposal for recovery of the deferred Alignment and Usage Adjustment (AUA) balance remaining on its books.

Q6. WHAT DOCUMENTS HAVE YOU REVIEWED IN PREPARATION OF YOUR TESTIMONY?

A6. I have reviewed the Company's Petition filed on February 15, 2018, along with the testimony and exhibits presented with its filing. In addition, I have reviewed the Company's workpapers supporting its attrition period revenues and rate base. I have also reviewed the Company's responses to the relevant data requests submitted by the Commission Staff as well the Company's responses to the Consumer Advocate's discovery requests.

Q7. WHAT TEST PERIOD AND ATTRITION PERIOD HAVE YOU ADOPTED FOR THIS CASE?

A7. The Company has proposed the twelve months ended June 30, 2017 as its test period with attrition adjustments through the twelve months ending June 30, 2019. These proposed dates appear somewhat stale given that any new rates adopted by the Commission are now anticipated to become effective on October 1, 2018. As a result, I have updated the Company's proposed test period to the twelve months ended December 31, 2017 and the proposed attrition period to the twelve months ending December 31, 2019.

Q8. WHAT IS THE YOUR REVENUE DEFICIENCY CALCULATION FOR THIS CASE?

A8. As shown on Consumer Advocate Exhibit, Schedule 1, the revenue deficiency/surplus calculation required to produce the 5.93% overall return recommended by Dr. Klein results in a revenue decrease of approximately $2.8 million.

Q9. ARE YOU SURPRISED THAT YOUR REVIEW OF THE COMPANY'S PETITION RESULTS IN A RATE DECREASE?

A9. No. As explained later in my testimony, the Company has actually managed to exceed its authorized rate of return last set by the Commission in Docket No. 09-00183. Further, CGC has a history of requesting rate increases that are far in excess of what the Commission ultimately found appropriate as shown below in Table 1.

Table 1 – Summary of Prior CGC Rate Case Awards		
Docket No.	Revenue Deficiency Requested by CGC	Revenue Deficiency Approved by TPUC
09-00183	$2,600,000	$60,068
06-00175	5,816,974	1,999,097
04-00034	4,560,699	642,777
97-00982	4,422,602	-1,166,213

Q10. DO YOU HAVE ANY COMMENTS ABOUT THE MANNER IN THE WAY THIS CASE WAS FILED BY THE COMPANY?

A10. Yes. The Company's case was filed with a bare minimum amount of supporting detail and a virtually complete lack of documentation or audit trail as to the source of that supporting information. Specifically, there were no workpaper numbers and only minimal footnote support documenting the source for the Company's workpapers. Further, many of the Company's workpapers only included hard-coded numbers without any documentation leaving no audit trail to the source data.[2] In addition, the Company's response to the Commission's minimum filing guidelines indicated that all workpapers had been included when they clearly had not been provided. As a result, it is apparent that the Company does not give the minimum filing guidelines of the Commission serious consideration.

This lack of documentation required the Consumer Advocate to issue nearly 500 data requests in this Docket. In addition, it seriously hampered and delayed our

[2] With these filing deficiencies in mind, it cannot be said that the Company has set out a ratemaking methodology that provides detailed, or any for that matter, practices, procedures and formulas for computing the various ratemaking components required to determine tariff rates.

investigation. While the Company did cooperate in providing this information after the filing, it would be better for all parties if the minimum filing guidelines and other information that is usually requested in discovery were provided at the time of the initial rate case filing which would avoid delays for all parties in analyzing the case.

To prevent this problem from recurring in the future, I am recommending that the Commission adopt a minimum filing **requirement** specifically for CGC and all large gas, electric and water utilities under the Commission's jurisdiction for future rate cases. This minimum filing **requirement** should also contain a provision that requires a determination by the Commission's hearing officer that the utility has materially complied with this requirement before the procedural schedule can begin.[3]

[Testimony continues on next page]

[3] Further, it is my view is that this same requirement should apply to all utilities applying for alternative regulation.

I. ATTRITION PERIOD REVENUES

Q11. MR. NOVAK, PLEASE DESCRIBE THE MAJOR AREAS OF DIFFERENCE BETWEEN THE COMPANY'S AND YOUR CALCULATION OF ATTRITION PERIOD BILLING DETERMINANTS.

A11. Although CGC and I adopted different models to forecast the attrition period billing determinants, the differences between the two calculations are relatively minor. As mentioned above, the Company and the Consumer Advocate began with billing determinants for different test periods.[4] Both the Company and I then adjusted our test period billing determinants for the impacts of normal weather, annualized customer usage and customer growth to arrive at the attrition billing determinants. As shown in detail on Attachment WHN-2, Schedule 1 and summarized below in Table 2, the differences in the billing determinants forecasted by the Company and myself are relatively minor when compared to the total amounts.

Table 2 – Summary of Attrition Period Billing Determinants

Billing Determinant	Consumer Advocate	CGC	Difference
Bills	803,696	799,161	4,535
Billing Demand/Capacity	7,937,931	7,633,766	304,165
Therm Volumes	146,358,091	145,765,893	592,198

Q12. HOW WAS THE WEATHER ADJUSTMENT COMPUTED?

A12. Both the Company and I have used weather data from the Chattanooga weather station to normalize sales data for abnormal usage. However, the Company has

[4] The Company used the twelve months ended June 30, 2017 for its test period. The Consumer Advocate updated this test period to the twelve months ended December 31, 2017.

chosen to use a multi-linear regression methodology using a proprietary software program that is based on multiple variations of the measurement for heating degree days. Unfortunately, the results of the Company's weather normalization adjustments were quite convoluted, and the Company was unable to provide me with a clear audit trail of its calculations. As a result, I was unable to confirm the Company's weather adjustment calculation. To further confound the process, the Company then calculated a separate regression equation to compute its proposed Weather Normalization Adjustment (WNA) factors.

Q13. HOW DID YOU COMPUTE THE CONSUMER ADVOCATE'S WEATHER ADJUSTMENT?

A13. I used a simple linear regression calculation of heating degree days to sales per bill. This is the same weather normalization methodology adopted by the Commission in the last rate cases for Atmos Energy Corporation, Kingsport Power Company and Piedmont Natural Gas Company.[5] In addition, I used this same weather normalization adjustment methodology to compute my proposed WNA factors.

I then prepared separate weather normalization calculations for the Company's residential and commercial customers.[6] A summary of my weather adjustments, as well as the detailed calculations, are included on Attachment WHN-3 for WNA tracking purposes.

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[5] Respectively, Commission Docket Nos. 14-00146, 16-00001 and 11-00144.
[6] Rate Schedules R-1, R-4, C-1 and C-2.

Q14. DOES THE COMPANY HAVE A COMMISSION APPROVED WNA MECHANISM ALREADY IN PLACE?

A14. No, that does not appear to be the case. In the Company's last rate case in Docket No. 09-00183, the Commission approved an Alignment and Usage Adjustment (AUA) for the R-1 and C-1 tariffs only, which I discuss in more detail later in my testimony.[7] The AUA took the place of the previous WNA. Although there was no mention of a WNA mechanism in the Commission's Order in Docket No. 09-00183, CGC has continued to file a WNA reconciliation for the R-4 and C-2 tariffs. Further, the Commission Staff has continued to audit these WNA reconciliations for the past several years without any apparent approval by the Commission for its authorization.[8] Without any acknowledgement in the Commission's Order of a WNA that clearly lays out the particular WNA factors approved, I can only surmise that a WNA was not approved for any of CGC's customer classes.

Q15. WHAT ACTION DO YOU RECOMMEND THE COMMISSION TAKE WITH RESPECT TO THE WNA MECHANISM?

A15. In this Docket, the Company has requested the termination of the AUA along with the reactivation of the WNA.[9] I would recommend that the Commission grant the Company's request and implement the WNA factors shown in Attachment WHN-3. However, the implementation of this WNA would be redundant with the

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[7] Commission Order in Docket No. 09-00183, Page 57 (November 8, 2010).
[8] Most recently in Docket 17-00062.
[9] Testimony of Company witness Archie Hickerson, Page 3, Lines 14 – 21.

implementation of an Alternative Rate Mechanism (ARM), since the ARM trues up actual costs to those approved in the last rate case. Therefore, I would recommend that the WNA be terminated if and when the Commission should determine that an ARM can be implemented for CGC.

Q16. HOW HAVE YOU ADJUSTED THE ATTRITION PERIOD BILLING DETERMINANTS FOR EXISTING CUSTOMER USAGE?

A16. I adjusted industrial customer usage by individually analyzing the sales volumes of the Company's 25 largest customers. Where I felt that it was necessary, such as a large swing in gas usage or a material tariff transfer, I adjusted the test period usage to take these changes into account. I then compared my own adjustments with those proposed by the Company. For the most part, I felt in this Docket that the Company had properly adjusted for any test period anomalies and tariff transfers within the industrial customer group.

Q17. HOW WERE SALES VOLUMES FOR ADDED CUSTOMERS COMPUTED?

A17. A historical average of added customers was first calculated. These forecasted customer additions were then multiplied by an average normalized usage volume per customer giving additional attrition period sales volumes for the residential and commercial rate classes.

Q18. HOW WERE THE ATTRITION PERIOD BILLING DETERMINANTS TRANSLATED INTO REVENUES?

A18. The attrition period billing determinants as shown on Attachment WHN-2 were multiplied by the existing base tariff rates and the PGA rate based upon the Company's demand and commodity gas costs at December 2017. This gives total attrition period gas sales and transportation margin of $31,974,673 as shown on Consumer Advocate Exhibit, Schedule 8 and summarized below in Table 3.

Table 3 – Comparison of Consumer Advocate and Company Attrition Period Gross Margin under Current Rates			
Tariff	**Consumer Advocate**	**CGC**	**Difference**
Residential (R-1)	$14,340,557	$14,335,536	$5,021
Multi-Family Housing (R-4)	28,029	26,108	1,921
Small Commercial (C-1)	3,504,507	3,544,307	-39,800
Medium Commercial (C-2)	8,270,624	8,055,736	214,888
Industrial (F-1/T-2)	2,003,400	2,143,423	-140,023
Industrial (I-1)	36,274	36,129	145
Industrial (T-1)	1,1,082,153	1,099,657	-17,504
Industrial (T-1/T-2)	1,290,946	1,201,232	89,714
Industrial (T-3)	1,276,880	1,120,183	156,697
Special Contract (SC)	141,302	140,247	1,055
Total	**$31,974,673**	**$31,702,558**	**$272,114**

Q19. HOW DID YOU COMPUTE OTHER REVENUES?

A19. Other revenues primarily consist of forfeited discounts and miscellaneous service charges. To compute these amounts, I took a historical average of these amounts over the last four years. This produced $675,121 in Other Revenues as shown on Consumer Advocate Exhibit, Schedule 6.

Q20. HOW DID YOU COMPUTE THE COST OF GAS?

A20. I began with the attrition period throughput volumes and billing demand discussed above. These determinants were then priced out at the December 2018

PGA rates. This produced $42,765,421 in Purchased Gas Expense as shown on Consumer Advocate Exhibit, Schedule 6.

Q21. MR. NOVAK, ARE THERE ANY ISSUES OR CONCERNS WITH THE REVENUE CALCULATION THAT NEED TO BE BROUGHT TO THE COMMISSION'S ATTENTION?

A21. Yes. My investigation found that the Company had assigned a Special Contract rate discount to a new customer without Commission approval. In addition, I found that the Company was applying the sharing percentage of off-system sales to the sale of liquefied natural gas without Commission approval.

Q22. PLEASE DESCRIBE THE ASSIGNMENT OF THE SPECIAL CONTRACT RATE TO A NEW CUSTOMER WITHOUT COMMISSION APPROVAL.

A22. On July 18, 2000, the Commission approved a Special Contract with E.I. du Pont de Nemours (du Pont) in Docket No. 99-00908. Since approval of this contract with du Pont, CGC has assigned the rates to subsequent owners of this plant without Commission approval.[10] The Consumer Advocate questioned the Company's assignment of this Special Contract, and the Company responded that the "[a]ssignment of the contract and/or the rates, terms, and conditions contained therein does not require the approval of the TPUC."[11]

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[10] It appears that the rate was first assigned to "Invista" and then to "Kordsa" the current owner.

[11] See Company response to CPAD Discovery Request 1-365.

Q23. DO YOU AGREE WITH THE COMPANY'S CHARACTERIZATION OF THE ASSIGNMENT FOR THIS SPECIAL CONTRACT?

A23. No, I do not. The unique conditions that were present with the original owner of the plant that required a Special Contract rate does not necessarily transfer to the subsequent owners, and I am not aware of a Commission pronouncement allowing this transfer without approval. As a result, the Company should have asked for and received Commission approval before applying the Special Contract rate to the current owner.

Q24. WHAT ACTION DO YOU RECOMMEND THE COMMISSION TAKE WITH RESPECT TO THE ASSIGNMENT OF THIS SPECIAL CONTRACT?

A24. The existing contract is set to expire on October 31, 2019.[12] For now, I have included the anticipated volumes for the current owner at the Special Contract rate. However, I would recommend that the Commission clearly state that any and all assignments of Special Contracts to new owners requires Commission approval before the existing Special Contract rate can be charged.

Q25. PLEASE DESCRIBE HOW THE COMPANY IS ACCOUNTING FOR THE SALES OF LIQUEFIED NATURAL GAS.

A25. CGC owns and operates a liquefied natural gas (LNG) facility in Chattanooga that allows natural gas to be compressed into a liquid state for storage. The cost of

[12] See Company response to CPAD Discovery Request No. 1-18a.

this LNG facility is included in rate base, and the cost of gas stored in the LNG facility is recovered through the purchased gas adjustment (PGA) mechanism.

The Company has an Interruptible Margin Credit Rider (IMCR) in its tariff that allows it to share on a 50/50 basis, the margin from off-system sales with its customers. Off-system sales are typically considered to be natural gas sales outside of the Company's jurisdiction. However, the Company also sells physical LNG that is transported in trucks to off-system customers.

Prior to July 2010, the margin from these off-system sales of LNG were recorded on the books of CGC. However, an accounting change was made starting in July 2010, where only the gas cost of LNG was kept on CGC's books while the margin from these sales was kept on an affiliate's books and later shared with CGC's customers on a 50/50 basis through the IMCR.[13]

Q26. DO YOU AGREE WITH CGC'S CHANGE IN ACCOUNTING METHODOLOGY FOR LNG SALES?

A26. No, I do not. It only makes sense that if the gas cost of LNG sales is kept on CGC books, then the margin from such sales should also kept on CGC's books. In addition, the margin transfer to an affiliate's books presupposes that the affiliate of CGC will always be the asset manager to control the sales of LNG, which will not always be true since competitive bids are made for the asset manager role.

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[13] See Company response to CPAD Discovery Request No. 2-19. I am not aware of a Commission action authorizing this change.

Q27. WHAT ACTION DO YOU RECOMMEND THE COMMISSION TAKE WITH RESPECT TO THE ACCOUNTING FOR LNG SALES?

A27. I recommend that the Commission order the Company to maintain the accounting for the gas cost as well as the margin from LNG sales on the books of CGC. This is the same accounting methodology used by the Company prior to July 2010.

Q28. DO YOU HAVE ANY OTHER CONCERNS RELATING TO LNG SALES?

A28. Yes. As described above, the current sharing arrangement for all margin from off-system sales, including LNG sales, is a 50/50 basis between the Company and the customers of CGC. I believe that it needs to be kept in mind that the customer bears all the risk and cost associated with these LNG sales – the Company only acts as a sales agent to make the transaction happen. With this relationship in mind, I would propose that the Commission update this sharing arrangement for off-system sales with 75% of the proceeds going to customers and the Company retaining 25% as a finder's fee for making the transaction happen. This is the same sharing arrangement that the Commission has already approved for off-system sales by Piedmont Natural Gas Company.[14] Although the margin received from off-system sales is not a component of this rate case, the changes to the structure of the Company's tariff are best handled in a rate case setting.[15] I would therefore recommend that this change in sharing be considered at this time.

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[14] See tariff of Piedmont Natural Gas Company, Service Schedule No. 316 – Performance Incentive Plan, effective March 1, 2012.

[15] Off-system sales margin is considered in the Interruptible Margin Credit Rider (IMCR) filing instead of a rate case.

II. ATTRITION PERIOD RATE BASE

Q29. MR. NOVAK, PLEASE EXPLAIN THE COMPONENTS THAT MAKE UP THE TEST PERIOD AND ATTRITION PERIOD RATE BASE.

A29. The development of my proposed Rate Base is shown on the Consumer Advocate Exhibit, Schedules 2 and 3. This Rate Base represents the net investment in utility plant upon which the Company should be allowed the opportunity to earn a fair rate of return.

Line 1, Utility Plant in Service $300,699,477. Utility Plant in Service is the largest component of rate base and represents the average amount of utility assets for the attrition year upon which the Company should be allowed the opportunity to earn a return. This attrition period Utility Plant in Service contains two different components – direct plant located in Chattanooga and indirect plant that is allocated to CGC. The breakdown of these two components of plant is shown below in Table 4.[16]

Table 4 – Components of Plant in Service			
Plant Component	**Consumer Advocate[17]**	**CGC[18]**	**Difference**
Direct Plant in Service	$299,137,680	$298,834,883	$302,797
Indirect Plant in Service	1,561,797	2,580,142	-1,018,345
Total	**$300,699,477**	**$301,415,025**	**$-715,548**

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[16] A portion of the Company's incentive compensation is capitalized and included within Utility Plant in Service. Because the Commission has traditionally disallowed incentive compensation in setting rates, the cumulative capitalized portion of this incentive compensation should also be deducted from Plant in Service. However, my review of capitalized incentive compensation revealed that it was not material relative to the Company's total plant in service, and I am not proposing such an adjustment for this case.

[17] Consumer Advocate Rate Base Workpapers RB-10.00 and RB-11-1.00.

[18] CGC Response to MFG No. 69-1.

To compute attrition year Utility Plant in Service, I began with the test period balance for both the direct and indirect plant and then increased this amount by the five-year average of historical plant additions.[19]

In contrast, the Company has calculated attrition year Utility Plant in Service by taking the test period balance and then adding its budgeted capital expenditures for 2017, 2018 and 2019. I believe that CGC's budget-based approach to forecasting Utility Plant in Service is incorrect because it relies solely upon the Company's anticipated budget expenditures as opposed to the actual experience that has historically taken place.

Q30. WHAT ALLOCATION FACTORS DID YOU USE TO PROJECT THE COMPANY'S INDIRECT UTILITY PLANT IN SERVICE?

A30. To allocate indirect common plant to Chattanooga, I used an average of the service company affiliate[20] throughput volumes and number of customers for 2016 and 2017 which produced an allocation factor of 1.63%.[21] In contrast, the Company has used a 1.90% factor to allocate common plant to Chattanooga that is based upon the percentage of expenses charged to CGC relative to the total expenses allocated to all affiliates.[22] In my opinion, the use of charged expenses

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[19] This five-year average was consistently used to develop a normalized level for all Rate Base items.
[20] In addition to Chattanooga Gas Company, these affiliates include Atlanta Gas Light Company, Virginia Natural Gas, Florida City Gas, Elkton Gas Services, Elizabethtown Gas Company and Nicor Gas.
[21] Consumer Advocate Rate Base Workpaper RB-11-5.00.
[22] CGC Response to MFG No. 71.

is a poor measure to allocate indirect common plant since it is based on currently charged activity.

Q31. PLEASE CONTINUE WITH YOUR EXPLANATION OF THE REMAINING COMPONENTS OF THE RATE BASE CALCULATION.

A31. **Line 2, Construction Work in Progress $6,580,878.** This item represents plant currently under construction that will soon become used and useful in providing utility service to the Company's customers. To project Construction Work in Progress (CWIP), I used a five-year historical average of the annual balances in this account for direct and indirect costs. The indirect CWIP costs were allocated using the same allocation rate of 1.63% that was used for Plant in Service.

In contrast, the Company has calculated its attrition year CWIP of $12,375,743 from its projected capital expenditures for 2017, 2018 and 2019.[23] As with Utility Plant in Service, I believe that CGC's budget-based approach to forecasting Construction Work in Progress is incorrect because it relies solely upon the Company's anticipated budget expenditures as opposed to the actual experience that has historically taken place.

In addition, the Company's attrition period capital budget anticipates expenditure levels far more than what has been historically spent. I am not opining as to whether this level of spending is or is not prudent, however I do believe that it

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[23] CGC Response to MFG No. 69-2.

would be inappropriate to set rates on a speculative budget that is materially more than the historical expenditure amounts.[24]

<u>Line 3, Pension & Other Post-Employment Benefit Assets $0.</u> Pension & Other Post-Employment Benefit (OPEB) Assets represent the accrued asset values of the Company's employee retirement benefits. The attrition amounts forecasted by the Company and the Consumer Advocate, as well as the amount recognized by the Commission in the Company's last rate case in Docket No. 09-00183 is shown below in Table 5.

Table 5 – Components of Pension & Other Post-Employment Benefits			
	Consumer Advocate[25]	**CGC[26]**	**TPUC Order 09-00183[27]**
Pension Assets	$0	$6,631,181	$0
Other Post-Employment Benefits	0	2,374,783	257,596
Total	**$0**	**$9,005,964**	**$257,596**

In this Docket, the Company is proposing to recover the accrued asset values for pension expense.[28] The Consumer Advocate is recommending that pension expense on the income statement be limited to cash contributions only resulting in no accrued assets in rate base. The Consumer Advocate is also recommending in this Docket that OPEB expense also be limited to cash contributions on the income statement, resulting in no accrued assets in rate base.

[24] Further, if an ARM is ultimately approved for CGC, then rates would be adjusted to reflect the actual level of investment.
[25] Consumer Advocate Rate Base Workpapers RB-20-1.00.
[26] CGC Response to MFG No. 25, Exhibit RDJ 2-1.
[27] TPUC Order in Docket No. 09-00183, Page 35 (November 8, 2010).
[28] Direct testimony of Gary Tucker substituting for the Direct Testimony of Rachael D. Johnson, filed May 11, 2018, Page 13, Lines 3 – 8.

The Commission has a long-established policy of only allowing rate recovery of the minimum required contribution for pension and other post-employee benefits (OPEB) expenses.[29] These calculations are included in the schedules discussed by Mr. Dittemore in his testimony regarding operation and maintenance expenses.

Q32. DID THE COMPANY RECORD ZERO ($0) IN PENSION AND OPEB EXPENSE ON ITS BOOKS FOR THE TEST PERIOD?

A32. No. CGC recorded the accrued calculation of its pension and OPEB expense that is provided by its actuary in accordance with specific Financial Accounting Standards Board requirements.

Q33. IS THE COMMISSION REQUIRED TO FOLLOW THIS SPECIFIC ACCOUNTING METHODOLOGY FOR RATE SETTING PURPOSES?

A33. No. Public Utility Commissions generally have broad latitude in setting the accounting methodology for public utilities under their jurisdiction. Financial Accounting Standard #71 (FAS 71) recognizes that regulatory bodies may in fact set rates using a methodology that departs from other accounting pronouncements. Specifically, FAS 71 reads in part as follows:

> *This Statement may require that a cost be accounted for in a different manner from that required by another authoritative pronouncement. In that case, this Statement is to be followed because it reflects the economic effects of the rate-making process—effects not considered in other authoritative pronouncements.*[30]

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[29] See specifically Commission Docket No. 92-14631, Investigation of Proper Regulatory Treatment of Other Post-Employment Benefits for Utilities Regulated by the Tennessee Public Service Commission.
[30] Financial Accounting Standards Board, Statement of Financial Accounting Standards No. 71 – Accounting for the Effects of Certain Types of Regulation (December 1982).

Therefore, the choice of which accounting methodology to adopt for setting rates is completely within the Commission's discretion.

Q34. WHY SHOULD THE COMMISSION ADOPT THE COMPANY'S MINIMUM REQUIRED CONTRIBUTION FOR RATE SETTING PURPOSES?

A34. Beyond confirming the rate setting policy on pension and OPEB expenses that the Commission has applied consistently to other utilities, there are several reasons that this policy should be extended to CGC.

First, adopting the minimum required contribution most closely matches today's cost with today's customer. The minimum required contribution is also generally not subject to the same changes in assumptions for market conditions as the actuary's recommended contribution.[31] Finally, the minimum required contribution is typically a more stable and consistent amount and therefore more appropriate for setting rates for the near-term future. I therefore recommend that the Commission adopt the Company's current funding requirement of zero ($0) as the appropriate level of pension and OPEB expense for the attrition year.

Line 4, Materials & Supplies $300,612. This item represents the carrying value of miscellaneous materials and inventories and represents an investment on which

[31] These assumptions include discount rates, inflation rates for health care services, the level and type of health care benefits offed to future employees, employment levels, employee turnover and retirement rates, disability rates, eligibility dates, the mix by age and sex of employees, and the expected return earned on plan assets.

the Company should be allowed to earn a reasonable return. To project the attrition period balance of Materials & Supplies, I used a five-year historical average of the annual balances in this account while the Company has only taken the average balance in this account for 2017. As a result, the Consumer Advocate's forecast is based on a normalized level of activity in this account, rather than just the test period amount.

Line 5, Prepayments $40,653. This item represents the carrying value of certain expenses that are paid in advance and then amortized over their useful life and represents an investment on which the Company should be allowed to earn a reasonable return. To project the attrition period balance of Prepayments, I used a five-year historical average of the annual balances in this account while the Company has only taken the average balance in this account for 2017. As a result, the Consumer Advocate's forecast is based on a normalized level of activity in this account, rather than just the test period amount.

Line 6, Gas Inventory $10,168,496. This item represents the carrying value of gas in storage to serve the Company's customers. As this gas is consumed, it is charged to the customer through the Purchased Gas Adjustment. However, the carrying value of gas in storage represents an investment on which the Company should be allowed to earn a reasonable return. To project the attrition period balance of Gas Inventory, as with most other Rate Base calculations, I used a five-year historical average of the annual balances in this account. In contrast, the

Company has attempted to forecast the injections and withdrawals to gas inventory at forecasted New York Mercantile Exchange prices through the end of the attrition year.[32] Even though the Consumer Advocate's forecast of Gas Inventory is slightly higher that the Company's ($10,168,496 vs. $9,710,633) I would still recommend its adoption, since it was calculated in the same manner as other rate base components.

Line 7, Deferred Rate Case Expense $260,365. This item represents the forecasted unamortized balance during the attrition year of the Company's cost of preparing, presenting and defending this rate case filing before the Commission. The Company is proposing to defer these expenses and recover it over the next three years. The amounts for each of the components of rate case expense are shown below on Table 6.

Table 6 – Components of Deferred Rate Case Expense			
Component	**Consumer Advocate[33]**	**CGC[34]**	**CGC Update[35]**
Depreciation Study	$46,832	$46,832	$57,119
Rate Design	0	60,000	68,940
Legal Cost	200,000	550,000	667,850
Lead Lag Study	50,320	50,320	82,715
Cost of Equity	50,000	50,000	0
Consultants	0	157,995	115,511
Total	**$347,152**	**$915,147**	**$992,135**

32 Direct testimony of Gary Tucker substituting for the Direct Testimony of Rachael D. Johnson, filed May 11, 2018, Pages 14-15.

33 Consumer Advocate Rate Base Workpaper RB-45-2.00.

34 CGC Response to MFG No. 69-4.

35 Actuals through May 2018 contained in CGC updated response of June 13, 2018 to CPAD-1-175.

Q35. MR. NOVAK, EXPLAIN HOW YOU ARRIVED AT THE FORECASTS FOR YOUR COMPONENTS OF DEFERRED RATE CASE EXPENSE.

A35. As shown on Table 6, I accepted the Company's estimate for the consultant costs related to the depreciation study, the lead-lag study, and the cost of equity witness. However, I rejected the consultant costs related to rate design because these costs were for the class cost of service study (CCOSS) that is discussed later in my testimony. To my knowledge, the Commission has never accepted or set utility rates on a CCOSS. Therefore, these expenditures appear to be imprudent, so I removed them from the Consumer Advocates projection of rate case expense. I also rejected the Company's estimate of rate case costs related to "Consultants" because the Company has never identified the need or purpose for these costs.

For the legal expense portion of rate case costs, I was truly surprised by the Company's original estimate of $550,000. I was then even more amazed at the Company's actual record of legal costs incurred to date for $667,850, since the only legal costs involved to this point would be reviewing the filing and cataloging the discovery responses. However, for whatever reason, the Company has decided to engage two separate law firms to pursue this case. This seems duplicative and imprudent, so I eliminated half of the estimated legal costs. Further, in prior cases, the Commission has recognized that at least some portion of rate case expense should be borne by stockholders and has only allocated 50%

of rate case expense to rate payers.[36] As a result, I only included $200,000 as the appropriate legal costs for this case.

Finally, I would note that there needs to be some boundaries applied to rate case costs that are ultimately borne by customers. In this particular Docket, it appears that rate case costs have become a "runaway" item for CGC without any limits. In Docket No. 09-00183 the Company's rate case costs were $632,002.[37] However, this amount was more than double the previous rate case cost in Docket No. 06-00175.[38] Without any restrictions, it appears that CGC's rate case cost will double again in this current Docket. As a result, the Commission may want to consider severing this item from the rate case and setting up a separate docket to determine the appropriate and prudent expenditure for rate case expense.

Q36. HOW DID YOU CALCULATE YOUR UNAMORTIZED BALANCE OF DEFERRED RATE CASE EXPENSE?

A36. I amortized my recommended rate case expense over a 36-month period. This results in an unamortized balance of $260,365 during the attrition year that is included in rate base. It also results in an annual amortization of $115,718 that is included in the calculation of net operating income.

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[36] See Commission's Order in Docket No. 08-00039, Page 24, January 13, 2009.
[37] Id.
[38] Direct Testimony of Michael J. Morley, Docket 06-00175, Pages 11:16-19, May 30, 2006.

Q37. PLEASE CONTINUE WITH YOUR EXPLANATION OF THE REMAINING COMPONENTS OF THE RATE BASE CALCULATION.

A37. **Line 8, Working Capital $150,692.** This item represents the results from applying the Company's lead/lag study to the Consumer Advocate's Cost of Service as shown on Consumer Advocate Exhibit, Schedules 4 and 5. The specific details of the working capital calculation are discussed in Mr. Dittemore's testimony.

Line 10, Accumulated Depreciation $131,938,797. This item represents the amount of depreciation which has accrued over the life of the various capital assets included within Utility Plant in Service as described above. Like Plant in Service, Accumulated Depreciation is composed of two different components – accumulated depreciation related to direct plant located in Chattanooga and accumulated depreciation related to indirect plant that is allocated to CGC. The breakdown of these two components of plant is shown below in Table 7.

Table 7 – Components of Accumulated Depreciation			
Depreciation Component	**Consumer Advocate[39]**	**CGC[40]**	**Difference**
Direct Accumulated Depreciation	$131,439,768	$127,070,088	$4,369,680
Indirect Accumulated Depreciation	511,642	833,351	-321,709
Total	**$131,951,410**	**$127,903,439**	**$4,047,971**

In this case, the Company has proposed new depreciation rates for the Direct Plant located in Chattanooga. As shown on Attachment WHN-4, the impact of these new depreciation rates will increase depreciation expense by $13,770

[39] Consumer Advocate Rate Base Workpapers RB-60.00 and RB-61-1.01.
[40] CGC Response to MFG No. 69-9.

annually based on the asset values at December 31, 2017. In addition, the Company's depreciation study recognized that certain assets had been over-depreciated by approximately $862,000.[41] The Company has proposed to amortize this excess depreciation over a five-year period.[42] The proposed depreciation rates appear reasonable, and I have reflected these new rates within my calculation of depreciation expense for direct plant. The new depreciation rates also produced $7,848,702 in depreciation expense after amortization of the excess depreciation balance.[43] This $7,848,702 in net depreciation expense is reflected on the Income Statement in the Consumer Advocate's Exhibit.

Q38. HOW DID YOU CALCULATE THE DEPRECIATION EXPENSE FOR INDIRECT PLANT?

A38. The Company has no authorized depreciation rates for indirect plant in service that is allocated to Tennessee. Specifically, the Company's response to CPAD1-85 reads as follows:

> Provide the source for the current depreciation rates on common plant that are allocated to CGC from any affiliates.
>
> **Response:**
> The source for the depreciation rates is the judgement of management in the functional business units within AGL Services Company.

Since the Company has no approved depreciation rates for allocated plant, it would be inappropriate to include any depreciation expense on allocated plant in rates. Although the Company certainly had resources at its disposal for

41 Consumer Advocate Rate Base Workpaper RB-60-3.03.
42 Company Exhibit DAW-2, Page 72.
43 Consumer Advocate Rate Base Workpaper RB-60.00.

consideration of depreciation rates on allocated plant, it chose not to make any provision for this deficiency. Specifically, the Company could have easily expanded the depreciation study for CGC direct assets to encompass the service company. However, for unknown reasons, the Company chose to ignore the need for approved depreciation rates for plant costs allocated to CGC.

Therefore, instead of accruing new depreciation expense on indirect plant, I took the test period balance of accumulated depreciation and allocated it to CGC using the same 1.63% allocation factor that was used for allocated plant. This produced $511,642 in accumulated depreciation for indirect plant for the attrition period.[44]

Q39. PLEASE CONTINUE WITH YOUR EXPLANATION OF THE REMAINING COMPONENTS OF THE RATE BASE CALCULATION.

A39. **Line 11, Accumulated Deferred Income Taxes $23,248,288.** This item is discussed in Mr. Dittemore's direct testimony.

Line 12, Regulatory Liability, Excess Deferrals $21,034,664. This item is discussed in Mr. Dittemore's direct testimony.

Line 13, Customer Advances for Construction $0. This item typically represents non-investor supplied funds from customers for extending utility service that the Company has used to finance a portion of its utility investment and should therefore be included as a deduction in computing Rate Base. In 2017,

[44] Consumer Advocate Rate Base Workpaper RB-61-1.01.

the Company determined that the balance in this account should be credited against plant in service as a permanent adjustment. As a result, the attrition period balance for Customer Advances for Construction is $0.

<u>Line 14, Reserve for Uncollectibles $180,584; Line 15 Reserve for Health Insurance $33,852; and Line 16, Other Reserves $76,668.</u> These items represent the accumulation of prior period expenditures that are recorded as a reserve for abnormal conditions. Consistent with other Rate Base calculations, I used a five-year historical average of the annual balances in these accounts as an appropriate normalized balance for the attrition period.[45]

A five-year average of the expense component of the Reserve for Uncollectibles was also calculated, resulting in an attrition period forecast of $121,863 that is reflected on Schedule 9 of the Consumer Advocate Exhibit.

<u>Line 17, Customer Deposits $1,875,733.</u> This item represents amounts advanced by customers to the Company for the privilege of obtaining utility service. These deposits therefore represent a source of non-investor supplied funds which the Company has available to finance a portion of its utility investment and should therefore be included as a deduction in computing Rate Base. Consistent with other Rate Base calculations, I used a five-year historical

[45] A four-year average was taken for the Reserve for Health Insurance as this was a relatively new account.

average of the annual balances in these accounts as an appropriate normalized balance for the attrition period.

<u>Line 18, Accumulated Interest on Customer Deposits $332,933.</u> This item represents the interest accrued on Customer Deposits and owed to the customer when the deposit is refunded. Since this accumulated interest is owed to the customer, it represents a source of non-investor supplied funds which the Company has available to finance a portion of its utility investment and should therefore be included as a deduction in computing Rate Base. Consistent with other Rate Base calculations, I used a five-year historical average of the annual balances in these accounts as an appropriate normalized balance for the attrition period.

After considering all of the above components, I computed Rate Base as shown on Consumer Advocate Exhibit, Schedules 2 and 3 to be $135,732,910.

[Testimony continues on next page]

III. RATE DESIGN

Q40. MR. NOVAK, PLEASE SUMMARIZE CGC'S RATE DESIGN PROPOSAL TO RECOVER ITS REVENUE DEFICIENCY.

A40. The Company has proposed using a Class Cost of Service Study to set rates for each of its tariffs.

Q41. PLEASE BRIEFLY EXPLAIN THE PURPOSE OF THE ALLOCATION PROCESS IN THE COMPANY'S CLASS COST OF SERVICE STUDY.

A41. The purpose of any CCOSS is to arrive at the cost of serving each customer class and present a systematic approach to allocating this cost (or total revenue requirement) to the different classes of customers. The CCOSS then provides a measure of guidance for the Commission to consider how to adjust individual rates for each customer class to produce the total revenue requirement.

Q42. HAVE YOU REVIEWED THE COMPANY'S PROPOSED CLASS COST OF SERVICE STUDY IN THIS CASE?

A42. Yes. The Company has developed a CCOSS that classifies each element of rate base and income to its different tariffs using 41 separate allocation factors. The result of the Company's CCOSS proposes an increase in base rates of 31.39% for residential and small commercial customers while only proposing a 9.87% increase in base rates for all other customers.[46]

[46] Consumer Advocate Revenue Workpaper R-90-1.00.

Q43. DO YOU AGREE WITH THE COMPANY'S CCOSS METHODOLOGY IN THIS CASE?

A43. No. The assignment of 41 individual allocation factors to each element of the Company's cost of service is inherently judgmental, and the Company has not introduced any evidence to fully explain its rationale for each individual allocation assignment. For example, the Company has allocated a significant portion of its costs based upon peak day consumption, meaning that almost all of these costs will be allocated to residential and small commercial customers without any discussion or evidence as to why such an allocation is appropriate. I could easily justify allocating many of these same costs based upon the total throughput of each customer class which would then allocate a majority of the costs to industrial customers. Since the Company has not provided any rationale for its individual allocation choices it is impossible to determine its rationale for cost allocation.

Finally, other factors beyond just the cost of service need to also be considered in allocating costs. These other factors include value of service, product marketability, encouragement of efficient use of facilities, broad availability of service functions, and a fair distribution of charges among users. Since it is impossible to properly consider each of these other factors, it follows that no mechanical or mathematical formula can ever be applied to the cost of service that would translate it directly into rates.

Q44. HAS THE COMMISSION EVER ADOPTED A CCOSS FOR THE PURPOSE OF SETTING RATES?

A44. No. To my knowledge, the Commission has never adopted a CCOSS for any of the utilities that it regulates.

Q45. HOW DO YOU PROPOSE THAT THE COMMISSION ALLOCATE THE COMPANY'S REVENUE REQUIREMENTS TO EACH CUSTOMER CLASS?

A45. I would recommend that the Consumer Advocate's projected revenue deficiency/(surplus) of $-2,844,934 be allocated evenly across-the-board to all customer classes, including Special Contract customers, based upon the ratio of each customer class' attrition period margin to the total attrition period margin. My complete revenue deficiency allocation is presented on Consumer Advocate Exhibit, Schedule 12 and summarized below on Table 8.

Table 8 – Consumer Advocate Attrition Period Margin Deficiency Allocation

Tariff	Current Margin	Margin Change	Proposed Margin	Percent Change
R-1	$14,340,557	$-1,275,946	$13,064,611	-8.90%
R-4	28,029	-2,494	25,535	-8.90%
C-1	3,504,507	-311,812	3,192,695	-8.90%

C-2	8,270,624	-735,876	7,534,748	-8.90%
F-1/T-2	2,003,400	-178,252	1,825,148	-8.90%
I-1	36,274	-3,227	33,047	-8.90%
T-1	1,082,153	-96,284	985,869	-8.90%
T-1/T-2	1,290,946	-114,861	1,176,085	-8.90%
T-3	1,276,880	-113,610	1,163,270	-8.90%
SC	141,302	-12,572	128,730	-8.90%
Gas Margin	**$31,974,672**	**-2,844,934**	**$29,129,738**	**-8.90%**
Other Revenues	675,121	-24,939	650,182	-3.69%
Total Margin	**$32,649,793**	**$-2,869,873**	**$29,779,920**	**-8.79%**

To summarize the results of Table 8, the Consumer Advocate would allocate an 8.90% rate decrease to residential customers based upon an across-the-board distribution of attrition period margin under current rates. The Consumer Advocate believes that an across-the-board change in rates to all customer classes more equitably spreads the benefit or burden of any change in rates and is preferable to the Company's CCOSS results.

Q46. WHAT SPECIFIC RATE DESIGN DO YOU PROPOSE?

A46. As mentioned above, I recommend that the proposed revenue deficiency/(surplus) of $-2,844,934 be allocated evenly across-the-board to all customer classes including Special Contract customers based upon the ratio of each customer class' attrition period margin to total attrition period margin. As to specific tariff rates, I recognize that the decline in customer usage has impaired the Company's ability to earn a fair rate of return. For that reason, I am proposing that the entire deficiency/(surplus) of $-2,844,934 in this case be recovered through decreased commodity charges. In other words, under the deficiency presented here, I am proposing that the existing monthly customer charges remain at their current levels.

My complete rate design is contained on Attachment WHN-5.

[Testimony continues on next page]

IV. RECOVERY OF DEFERRED ALIGNMENT AND USAGE ADJUSTMENT REVENUE

Q47. MR. NOVAK, WOULD YOU PROVIDE SOME BACKGROUND ON THE ALIGNMENT & USAGE ADJUSTMENT MECHANISM?

A47. Yes. On November 8, 2010, in Docket No. 09-00183, the Commission approved a rate increase of approximately $60,000 for CGC which was completely allocated to the residential customer class.[47] Along with this increase in rates, the Commission also approved a series of conservation measures proposed by CGC including a revenue decoupling mechanism known as the Alignment & Usage Adjustment (AUA) for the R1 and C1 residential and commercial customer classes.[48]

According to the 2010 Order, the AUA was approved for a three-year experimental period and was to take the place of the WNA (that existed prior to the AUA) for the R1 and C1 customer classes. The AUA works by first computing the actual monthly revenue per customer class and then comparing this amount with the benchmark monthly revenue per customer class recognized in the rate case. The difference between these two rates is multiplied by the actual number of customers billed and then either surcharged or refunded (with interest)

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47 2010 Order at Page 66 at paragraph 6.

48 2010 Order at Page 66 at paragraph 7. The Commission also approved a conservation plan consisting of a residential free programmable thermostat program and a limited community outreach and customer education program.

to each customer class. In addition, the Commission placed a cap of 2% of margin on annual increases to the AUA surcharge.[49]

On November 6, 2013, the Commission issued the 2013 Order extending the existing AUA mechanism until an evaluation of the experimental program could be prepared. The Commission Staff then contracted with NRRI to evaluate CGC's conservation measures and to prepare a report of its findings.

The NRRI Report on CGC's conservation measures was presented to the Commission on January 10, 2017. According to the NRRI Report, "…the program intent might have been reasonable, but the plan itself turned out to be shortsighted."[50] The Commission Staff Report, on September 19, 2017, essentially reviewed and affirmed the results of the NRRI Report. The Commission Report noted, among other things, that there appeared to be insufficient customer data available to properly evaluate the results from CGC's conservation measures.[51] Further, the reports generally observe that while the program may result in savings, that savings may be difficult to achieve.[52] As a result, in general terms, the Commission's intent to address specific conservation measures for CGC's customers fell short of their stated goals.

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[49] 2010 Order at page 66 at paragraph 8.
[50] NRRI Report *Evaluating Chattanooga Gas Company's 2012-13 Energy Efficiency Programs and Ideas for Evaluating Future Energy Efficiency Programs in Tennessee*, Report No. 16-09, Tom Stanton, December 2016, Page 15.
[51] TPUC Staff Report at Pages 7-8.
[52] TPUC Staff Report at Pages 10-11 (referring to the relationship between the NRRI Report and TPUC Staff Report.

On September 26, 2017, CGC issued the CGC Report on the AUA mechanism. In its report, CGC requested that the AUA mechanism now be discontinued and replaced with a WNA mechanism. CGC also requested that it be allowed to recover the current balance of approximately $1.9 million in deferred AUA surcharges. On October 20, 2017, CGC made a formal tariff filing to terminate the AUA mechanism. Finally, after the hearing officer's suspension of its proposed tariff filing, CGC agreed to address the termination of the AUA and recovery of the deferred balance within the current rate case. The Commission accepted this resolution and in its January 5, 2018 Order, moved these outstanding issues into this current rate case.

Q48. MR. NOVAK, PLEASE EXPLAIN HOW THE CUMULATIVE DEFERRED AUA BALANCE IS CALCULATED.

A48. As mentioned above, the AUA was subject to a 2% margin cap on the annual increases to the surcharge. This means that CGC could not increase the AUA surcharge by more than 2% of the existing base rate no matter what the actual AUA deficiency might have been. As a result, CGC has been required to defer (with interest) the cumulative AUA balance on its books. As of May 31, 2017, the cumulative deferred AUA balance was approximately $1.9 million as shown below on Table 9.[53]

[53] These deferred balances reported by CGC have not been audited.

TABLE 9 – CGC'S DEFERRED AUA BALANCE[54]			
Deferred Balance at	**Residential R-1 AUA Balance**	**Commercial C-1 AUA Balance**	**Total AUA Balance**
May 31, 2010	$0.00	$0.00	$0.00
May 31, 2011	-283,469.21	121,387.42	-162,081.79
May 31, 2012	581,374.40	510,008.12	1,091,382.52
May 31, 2013	234,422.24	607,900.88	842,323.12
May 31, 2014	-642,496.01	337,691.02	-304,804.99
May 31, 2015	-859,571.75	260,387.38	-599,184.37
May 31, 2016	-88,171.99	590,360.24	502,188.25
May 31, 2017	871,831.03	992,885.87	1,864,716.90

Q49. MR. NOVAK, DID YOU FIND ANY AUTHORIZATION BY WHICH CGC COULD RECOVER THE CUMULATIVE DEFERRED AUA BALANCE?

A49. No.

Q50. MR. NOVAK, FOR CONTEXT AS TO CGC'S REGULATORY AND FINANCIAL CONDITION, WHAT WERE CGC'S EARNINGS DURING THIS SAME TIME PERIOD?

A50. During this same time, CGC exceeded its authorized rate of return of 7.38% by as much as $3.3 million as shown below on Table 10. These overearnings were only reduced in 2015 and 2016 due to a significant increase of approximately $14 million in rate base.[55] Without this unexplained increase to its rate base, CGC would have continued exceeding its authorized rate of return during 2015 and 2016.[56]

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[54] AUA Balance Detail provided in a July 20, 2017 email from Archie Hickerson to Hal Novak included as Attachment WHN-6. Negative balances denote cumulative AUA funds below the 2% cap. Positive balances denote cumulative AUA funds above the 2% cap. Note also that these balances do not precisely match the values included in CGC's September 26, 2017 filing.

[55] This change represents an increase of approximately 14% to rate base.

[56] CGC's ability to earn well beyond its authorized rate of return is puzzling given the relative insignificant change in rates (approximately $60,000) that resulted from their 2010 rate case.

TABLE 10 – CGC EARNINGS[57]		
For the 12 Months Ended	Over/(Under) Authorized Earnings	Cumulative Over/(Under) Earnings
December 31, 2011	$1,115,548	$1,115,548
December 31, 2012	544,381	1,659,929
December 31, 2013	988,931	2,648,860
December 31, 2014	623,332	3,272,192
December 31, 2015	-842,454	2,429,738
December 31, 2016	-1,173,289	1,256,449

Q51. MR. NOVAK, WHAT IS YOUR RECOMMENDATION TO THE COMMISSION REGARDING CGC'S PROPOSAL TO RECOVER THE CUMULATIVE DEFERRED AUA BALANCE OF APPROXIMATELY $1.9 MILLION?

A51. I recommend that the Commission reject CGC's proposal to recover the cumulative deferred AUA balance, since there does not appear to be any approved or otherwise authorized basis upon which it could be recovered. My recommendation also is supported by the significant overearnings that CGC has captured and retained since its last rate case. Further, I recommend that the Commission audit the surcharges and collections from the AUA mechanism.

[Testimony continues on next page]

[57] Compiled from monthly financial reports filed with the TPUC and the Consumer Advocate and shown on Attachment WHN-7.

V. TARIFF CHANGES

Q52. MR. NOVAK, COULD YOU PLEASE BRIEFLY SUMMARIZE THE TARIFF CHANGES THAT THE COMPANY HAS PROPOSED OTHER THAN CHANGES IN RATES?

A52. Yes. The Company has proposed changing the provisions in its tariff for standard extensions of its main and service lines. In addition, the Company has updated the tax provision on any contributions that are required from customers to 17.25% in order to comply with the new federal income tax rates. I have reviewed these proposed changes and am not opposed to their approval.

The Company has also proposed to eliminate the air conditioning rate and standby demand charges for residential and small commercial customers. I have reviewed these proposed changes and am not opposed to their approval.

The Company has also proposed to eliminate its experimental rate schedule for semi firm sales service that has never had any customers. I have reviewed this proposed change and am not opposed to its approval.

The Company has also proposed changes to its tariff that impact its industrial customers. Specifically, the Company is proposing to increase its penalty for unauthorized gas use and for the determination of eligible receipt points for transporting customers. I have reviewed these proposed changes. However, at this time I have no opinion as to whether they should be accepted or rejected.

The Company has also proposed changes to its tariff that impact the Performance Based Ratemaking calculations. I have reviewed this proposed change. However, at this time I have no opinion as to whether it should be accepted or rejected.

Finally, the Company has proposed changes to its tariff that allow it to protect employees from potential danger. I have reviewed these proposed changes and am not opposed to their approval.

Q53. DOES THIS COMPLETE YOUR TESTIMONY?

A53. Yes, it does. However, I reserve the right to incorporate any new information that has become available after June 18, 2018 (including specifically the Company's compelled responses to the Consumer Advocate's Discovery Request Nos. 1-400 and 1-178) and that may subsequently become available.

ATTACHMENT WHN-1
William H. Novak Vitae

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The Woodlands, TX 77381

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Email: halnovak@whnconsulting.com

Areas of Specialization

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

Relevant Experience

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

Sequent Energy Management – February 2001 to July 2003
Vice-President of Regulatory Compliance for approximately two years with Sequent Energy Management, a gas trading and optimization affiliate of AGL Resources. In that capacity, directed the duties of the regulatory compliance department, and reviewed and analyzed all regulatory filings and controls to ensure compliance with federal and state regulatory guidelines. Engaged and oversaw the work of a number of regulatory consultants and attorneys in various states where Sequent has operations. Identified asset management opportunities and regulatory issues for Sequent in various states. Presented regulatory proposals and testimony to eliminate wholesale gas rate fluctuations through hedging of all wholesale gas purchases for utilities. Also prepared testimony to allow gas marketers to compete with utilities for the transportation of wholesale gas to industrial users.

Atlanta Gas Light Company – April 1999 to February 2001
Director of Rates and Regulatory Analysis for approximately two years with AGL Resources, a public utility holding company serving approximately 1.9 million customers in Georgia, Tennessee, and Virginia. In that capacity, was instrumental in leading

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

Tennessee Regulatory Authority – Aug. 1982 to Apr 1999; Jul 2003 to Sep 2004
Employed by the Tennessee Regulatory Authority (formerly the Tennessee Public Service Commission) for approximately 19 years, culminating as Chief of the Energy and Water Division. Responsible for directing the division's compliance and rate setting process for all gas, electric, and water utilities. Either presented analysis and testimony or advised the Commissioners/Directors on policy setting issues, including utility rate cases, electric and gas deregulation, gas cost recovery, weather normalization recovery, and various accounting related issues. Responsible for leading and supervising the purchased gas adjustment (PGA) and gas cost recovery calculation for all gas utilities. Responsible for overseeing the work of all energy and water consultants hired by the TRA for management audits of gas, electric and water utilities. Implemented a weather normalization process for water utilities that was adopted by the Commission and adopted by American Water Works Company in regulatory proceedings outside of Tennessee.

Education

B.A, Accounting, Middle Tennessee State University, 1981
MBA, Middle Tennessee State University, 1997

Professional

Certified Public Accountant (CPA), Tennessee Certificate # 7388
Certified Management Accountant (CMA), Certificate # 7880
Former Vice-Chairman of National Association of Regulatory Utility Commission's Subcommittee on Natural Gas

Witness History for William H. Novak, CPA
Selected Cases

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

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

ATTACHMENT WHN-2

CPAD Pro Forma Billing Determinants

Chattanooga Gas Company
Comparison of CAPD & Company Billing Determinants

Line No.		Test Period		Attrition Period		Total Adjustments	
		CPAD	CGC	CPAD	CGC	CPAD	CGC
	Volumes (Therms):						
1	Residential (R-1)	29,758,230	28,198,845	36,243,358	36,709,350	6,485,128	8,510,505
2	Multi-Family Housing (R-4)	61,811	60,467	69,926	60,500	8,115	33
3	Commercial (C-1)	6,033,241	5,849,037	7,380,830	7,598,304	1,347,589	1,749,267
4	Commercial (C-2)	23,944,430	23,002,221	26,694,361	26,901,009	2,749,931	3,898,788
5	Industrial (F-1/T-2)	20,555,259	19,369,897	20,578,394	22,515,050	23,135	3,145,153
6	Industrial (I-1)	449,666	456,538	449,666	449,980	0	-6,558
7	Industrial (T-1)	19,237,770	18,969,818	19,416,191	19,124,710	178,421	154,892
8	Industrial (T-1/T-2)	20,106,911	20,013,747	20,106,911	17,967,690	0	-2,046,057
9	Industrial (T-3)	6,009,042	5,906,709	6,387,914	5,620,540	378,872	-286,169
10	Special Contract (SC)	9,030,540	8,818,760	9,030,540	8,818,760	0	0
11	**Total Volumes (Therms)**	135,186,900	130,646,039	146,358,091	145,765,893	11,171,191	15,119,854
	Bills:						
12	Residential (R-1)	681,257	675,988	698,586	694,327	17,329	18,339
13	Multi-Family Housing (R-4)	2,202	2,195	2,202	2,220	0	25
14	Commercial (C-1)	79,408	78,500	80,202	80,112	794	1,612
15	Commercial (C-2)	21,123	21,761	21,339	21,158	216	-603
16	Industrial (F-1/T-2)	374	359	374	396	0	37
17	Industrial (I-1)	12	12	12	12	0	0
18	Industrial (T-1)	213	212	213	204	0	-8
19	Industrial (T-1/T-2)	168	173	168	168	0	-5
20	Industrial (T-3)	576	573	576	540	0	-33
21	Special Contract (SC)	24	24	24	24	0	0
22	**Total Bills**	785,357	779,797	803,696	799,161	18,339	19,364
	Billing Demand/Capacity (Therms):						
23	Residential (R-1)	0	0	0	0	0	0
24	Multi-Family Housing (R-4)	0	0	0	0	0	0
25	Commercial (C-1)	0	0	0	0	0	0
26	Commercial (C-2)	3,580,531	5,370,226	3,951,336	3,581,990	370,805	-1,788,236
27	Industrial (F-1/T-2)	1,286,959	1,251,819	1,286,959	1,414,908	0	163,089
28	Industrial (I-1)	0	0	0	0	0	0
29	Industrial (T-1)	1,060,789	1,107,684	1,060,789	1,065,012	0	-42,672
30	Industrial (T-1/T-2)	1,014,623	1,044,915	1,014,623	1,016,760	0	-28,155
31	Industrial (T-3)	586,072	558,484	623,024	553,896	36,952	-4,588
32	Special Contract (SC)	1,200	1,200	1,200	1,200	0	0
33	**Total Billing Demand/Capacity**	7,530,174	9,334,328	7,937,931	7,633,766	407,757	-1,700,562

SOURCE: CAPD Revenue Workpaper R-1-3.00.

ATTACHMENT WHN-3

WNA Factors

Chattanooga Gas Company
SUMMARY OF WNA FACTORS

Tariff	"R" Value ($/Therm)	Heat Factor (Therm/DDD)	Base Factor (Therm/Month)
Residential (R-1)	TBD	0.15024734	13.32898975
Multi-Family Housing (R-4)	TBD	0.06855402	14.46080765
Small Commercial (C-1)	TBD	0.29116094	16.52451922
Medium Commercial (C-2)	TBD	2.11686991	700.30683132

Chattanooga Gas Company
Residential (R-1)
Cycle Weather Normalization
Chattanooga Heating Degree Days

Attachment WHN-3
Schedule 2

For the 12 Months Ended December 31, 2017

MONTH	SALES	CUSTOMERS	SALES PER CUSTOMER	ACTUAL WEATHER	NORMAL WEATHER
January	6,288,527	57,087	110.1569	570	701
February	4,730,154	57,146	82.7731	455	700
March	4,041,414	57,166	70.6961	375	454
April	2,556,821	56,994	44.8612	138	256
May	1,097,718	56,706	19.3581	33	76
June	811,746	56,469	14.3751	0	9
July	686,097	56,215	12.2049	0	0
August	640,999	56,056	11.4350	0	0
September	713,485	56,153	12.7061	9	1
October	781,504	56,448	13.8447	1	44
November	2,354,186	57,175	41.1751	260	285
December	5,055,579	57,642	87.7065	564	531
TOTAL	**29,758,230**	**681,257**	**521.2927**	**2,405**	**3,057**

MONTH	WEATHER DEVIATION	PER CUST ADJUSTMENT	NORMAL SALE/CUST	NORMAL SALES	WEATHER ADJUSTMENT
January	131.1500	19.7049	129.8618	7,413,421	1,124,894
February	244.6500	36.7580	119.5311	6,830,727	2,100,573
March	79.1200	11.8876	82.5837	4,720,981	679,567
April	117.7700	17.6946	62.5558	3,565,307	1,008,486
May	43.0200	6.4636	25.8217	1,464,243	366,525
June	9.2100	1.3838	15.7589	889,888	78,142
July	0.0000	0.0000	12.2049	686,097	0
August	0.0000	0.0000	11.4350	640,999	0
September	-8.4300	-1.2666	11.4395	642,362	-71,123
October	43.1100	6.4772	20.3219	1,147,129	365,625
November	25.0400	3.7622	44.9373	2,569,290	215,104
December	-32.5200	-4.8860	82.8205	4,773,940	-281,639
TOTAL	**652.1200**	**97.9793**	**619.2720**	**35,344,384**	**5,586,154**

Regression Output:

Constant	13.32898975
Std Err of Y Est	6.98792551
R Squared	0.96500298
X Coefficient	0.15024734
Std Err of Coef.	0.00904811

Chattanooga Gas Company
Multi-Family Housing (R-4)
Cycle Weather Normalization
Chattanooga Heating Degree Days

For the 12 Months Ended December 31, 2017

MONTH	SALES	CUSTOMERS	SALES PER CUSTOMER	ACTUAL WEATHER	NORMAL WEATHER
January	11,248	180	62.4889	570	701
February	8,947	181	49.4309	455	700
March	7,717	182	42.4011	375	454
April	6,709	182	36.8626	138	256
May	3,178	184	17.2717	33	76
June	2,785	184	15.1359	0	9
July	2,396	184	13.0217	0	0
August	2,220	185	12.0000	0	0
September	2,461	185	13.3027	9	1
October	2,526	185	13.6541	1	44
November	3,972	185	21.4703	260	285
December	7,652	185	41.3622	564	531
TOTAL	**61,811**	**2,202**	**338.4021**	**2,405**	**3,057**

MONTH	WEATHER DEVIATION	PER CUST ADJUSTMENT	NORMAL SALE/CUST	NORMAL SALES	WEATHER ADJUSTMENT
January	131.1500	8.9909	71.4798	12,866	1,618
February	244.6500	16.7717	66.2026	11,983	3,036
March	79.1200	5.4240	47.8251	8,704	987
April	117.7700	8.0736	44.9362	8,178	1,469
May	43.0200	2.9492	20.2209	3,721	543
June	9.2100	0.6314	15.7673	2,901	116
July	0.0000	0.0000	13.0217	2,396	0
August	0.0000	0.0000	12.0000	2,220	0
September	-8.4300	-0.5779	12.7248	2,354	-107
October	43.1100	2.9554	16.6095	3,073	547
November	25.0400	1.7166	23.1869	4,290	318
December	-32.5200	-2.2294	39.1328	7,240	-412
TOTAL	**652.1200**	**44.7055**	**383.1076**	**69,926**	**8,115**

Regression Output:

Constant	14.46080765
Std Err of Y Est	7.31441668
R Squared	0.83972985
X Coefficient	0.06855402
Std Err of Coef.	0.00947086

Chattanooga Gas Company
Small Commercial (C-1)
Cycle Weather Normalization
Chattanooga Heating Degree Days

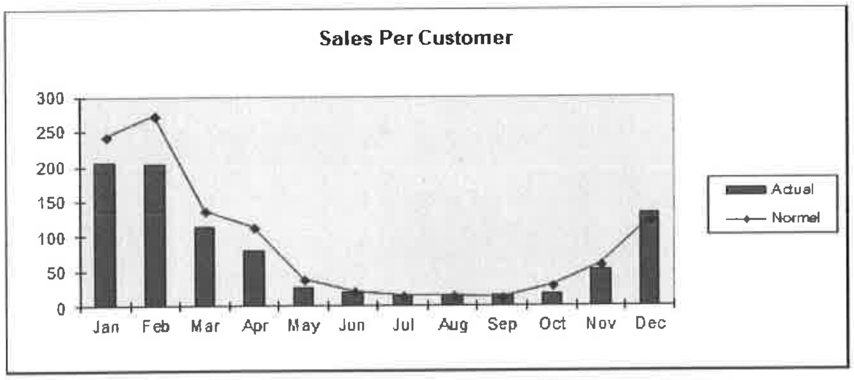
For the 12 Months Ended December 31, 2017

MONTH	SALES	CUSTOMERS	SALES PER CUSTOMER	ACTUAL WEATHER	NORMAL WEATHER
January	1,379,116	6,689	206.1767	570	701
February	1,376,656	6,788	202.8073	455	700
March	776,064	6,766	114.7006	375	454
April	534,423	6,690	79.8839	138	256
May	168,500	6,588	25.5768	33	76
June	131,354	6,541	20.0816	0	9
July	98,406	6,472	15.2049	0	0
August	98,453	6,437	15.2949	0	0
September	101,282	6,444	15.7173	9	1
October	113,029	6,508	17.3677	1	44
November	348,930	6,697	52.1024	260	285
December	907,028	6,788	133.6223	564	531
TOTAL	**6,033,241**	**79,408**	**898.5363**	**2,405**	**3,057**

MONTH	WEATHER DEVIATION	PER CUST ADJUSTMENT	NORMAL SALE/CUST	NORMAL SALES	WEATHER ADJUSTMENT
January	131.1500	38.1858	244.3625	1,634,541	255,425
February	244.6500	71.2325	274.0398	1,860,182	483,526
March	79.1200	23.0367	137.7373	931,930	155,866
April	117.7700	34.2900	114.1739	763,823	229,400
May	43.0200	12.5257	38.1025	251,019	82,519
June	9.2100	2.6816	22.7632	148,894	17,540
July	0.0000	0.0000	15.2049	98,406	0
August	0.0000	0.0000	15.2949	98,453	0
September	-8.4300	-2.4545	13.2628	85,465	-15,817
October	43.1100	12.5519	29.9196	194,717	81,688
November	25.0400	7.2907	59.3931	397,756	48,826
December	-32.5200	-9.4686	124.1537	842,755	-64,273
TOTAL	**652.1200**	**189.8718**	**1,088.4081**	**7,307,941**	**1,274,700**

Regression Output:

Constant	16.52451922
Std Err of Y Est	28.23624910
R Squared	0.86379909
X Coefficient	0.29116094
Std Err of Coef.	0.03656089



Chattanooga Gas Company
Medium Commercial (C-2)
Cycle Weather Normalization
Chattanooga Heating Degree Days

Attachment WHN-3
Schedule 5

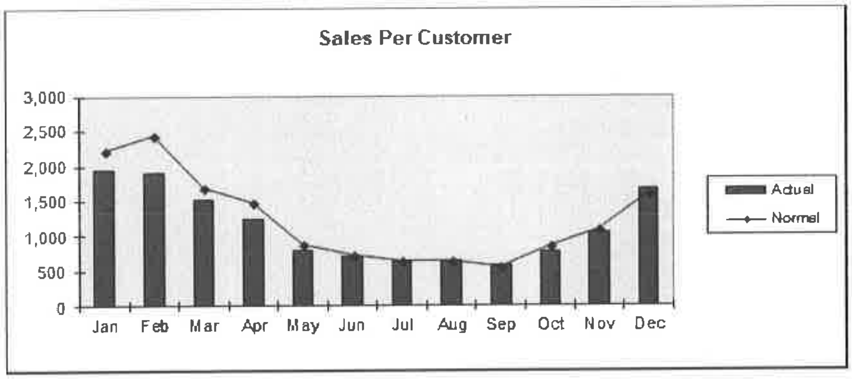
For the 12 Months Ended December 31, 2017

MONTH	SALES	CUSTOMERS	SALES PER CUSTOMER	ACTUAL WEATHER	NORMAL WEATHER
January	3,640,698	1,871	1,945.8568	570	701
February	3,418,036	1,788	1,911.6532	455	700
March	2,731,971	1,789	1,527.0939	375	454
April	2,194,501	1,773	1,237.7332	138	256
May	1,388,350	1,759	789.2837	33	76
June	1,241,276	1,738	714.1979	0	9
July	1,126,122	1,735	649.0617	0	0
August	1,115,033	1,728	645.2737	0	0
September	1,007,213	1,724	584.2303	9	1
October	1,338,854	1,728	774.7998	1	44
November	1,824,057	1,739	1,048.9114	260	285
December	2,918,319	1,751	1,666.6585	564	531
TOTAL	**23,944,430**	**21,123**	**13,494.7541**	**2,405**	**3,057**

MONTH	WEATHER DEVIATION	PER CUST ADJUSTMENT	NORMAL SALE/CUST	NORMAL SALES	WEATHER ADJUSTMENT
January	131.1500	277.6275	2,223.4843	4,160,139	519,441
February	244.6500	517.8922	2,429.5454	4,344,027	925,991
March	79.1200	167.4867	1,694.5806	3,031,605	299,634
April	117.7700	249.3038	1,487.0370	2,636,517	442,016
May	43.0200	91.0677	880.3514	1,548,538	160,188
June	9.2100	19.4964	733.6943	1,275,161	33,885
July	0.0000	0.0000	649.0617	1,126,122	0
August	0.0000	0.0000	645.2737	1,115,033	0
September	-8.4300	-17.8452	566.3851	976,448	-30,765
October	43.1100	91.2583	866.0581	1,496,548	157,694
November	25.0400	53.0064	1,101.9178	1,916,235	92,178
December	-32.5200	-68.8406	1,597.8179	2,797,779	-120,540
TOTAL	**652.1200**	**1,380.4532**	**14,875.2073**	**26,424,152**	**2,479,722**

Regression Output:

Constant	700.30683132
Std Err of Y Est	157.02679440
R Squared	0.91553913
X Coefficient	2.11686991
Std Err of Coef.	0.20332159



Chattanooga Gas Company
CHATTANOOGA 30 YEAR DAILY NORMAL HEATING DEGREE DAYS

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	22.40	20.87	15.70	7.20	2.13	0.10	0.00	0.00	0.00	1.33	8.47	18.37
2	21.47	19.83	15.67	7.03	1.90	0.03	0.00	0.00	0.00	1.27	9.33	17.40
3	22.07	21.20	17.73	7.10	2.27	0.00	0.00	0.00	0.00	1.57	10.37	18.03
4	22.23	23.23	16.50	7.10	3.03	0.00	0.00	0.00	0.00	1.50	10.90	18.03
5	23.17	24.13	15.57	8.03	3.17	0.00	0.00	0.00	0.00	1.97	10.47	19.23
6	23.37	23.83	14.17	7.90	2.50	0.00	0.00	0.00	0.07	2.17	11.40	20.53
7	24.17	21.77	13.77	8.10	2.10	0.07	0.00	0.00	0.03	2.63	11.37	20.10
8	25.37	21.23	13.87	6.13	1.10	0.00	0.00	0.00	0.00	2.90	12.30	20.53
9	23.53	21.33	13.63	6.67	0.53	0.00	0.00	0.00	0.00	3.23	12.33	20.33
10	23.50	22.20	13.90	6.20	1.03	0.03	0.00	0.00	0.00	2.73	12.50	20.50
11	23.40	21.00	13.97	5.53	1.07	0.00	0.00	0.00	0.10	2.83	12.57	21.23
12	21.57	22.30	13.17	4.87	1.20	0.00	0.00	0.00	0.07	3.17	12.93	21.47
13	21.17	22.87	12.53	5.70	1.23	0.03	0.00	0.00	0.20	2.73	13.87	20.30
14	23.47	19.70	13.07	4.00	0.60	0.00	0.00	0.00	0.10	2.93	13.63	20.70
15	24.17	19.67	12.10	4.20	1.13	0.00	0.00	0.00	0.00	3.47	14.57	20.87
16	25.03	19.37	11.77	4.63	1.37	0.00	0.00	0.00	0.07	4.60	14.53	20.57
17	24.40	21.87	11.60	4.60	1.43	0.00	0.00	0.00	0.03	5.10	15.30	20.50
18	24.20	21.00	9.90	3.93	1.03	0.00	0.00	0.00	0.00	5.33	15.00	21.83
19	24.90	18.60	11.13	3.00	0.83	0.00	0.00	0.00	0.07	6.77	14.97	22.27
20	23.97	17.00	11.57	2.90	0.63	0.00	0.00	0.00	0.13	7.10	13.57	22.93
21	23.13	14.67	11.43	2.67	0.83	0.00	0.00	0.00	0.10	5.57	13.33	21.33
22	24.37	15.50	11.67	2.83	0.70	0.00	0.00	0.00	0.20	5.23	15.33	20.53
23	23.87	16.47	10.13	3.50	0.30	0.00	0.00	0.00	0.77	6.90	16.10	21.10
24	23.23	17.83	9.10	3.97	0.00	0.00	0.00	0.00	0.97	7.00	15.90	23.80
25	24.53	18.43	9.07	2.70	0.20	0.00	0.00	0.00	0.90	7.40	16.20	25.87
26	23.30	19.13	9.57	3.27	0.23	0.00	0.00	0.00	0.73	6.40	16.83	25.23
27	23.67	18.30	9.17	3.90	0.13	0.00	0.00	0.00	0.57	7.43	16.50	23.13
28	21.63	16.50	8.13	3.80	0.43	0.00	0.00	0.00	0.87	8.13	16.57	21.80
29	21.20	4.10	9.37	3.10	0.57	0.00	0.00	0.00	1.07	9.13	17.33	21.20
30	21.43		8.13	2.23	0.17	0.00	0.00	0.00	1.20	8.17	16.40	22.30
31	21.63		8.27		0.10		0.00	0.00		7.77		21.70
Calendar Total	720	564	375	147	34	0	0	0	8	144	411	654
Cycle Total	701	700	454	256	76	9	0	0	1	44	285	531

NON-LEAP YEAR TOTAL	3,057
LEAP YEAR TOTAL	3,069

Note: Degree Days for February 29 must be multiplied by 4 to arrive at the true DDD for this day.
NOTE: AVERAGE IS FOR THE 30 YEAR PERIOD ENDED: December, 2017.

ATTACHMENT WHN-4

Impact of Proposed Depreciation Rates

Chattanooga Gas Company
CONSUMER ADVOCATE CALCULATION OF CURRENT & PROPOSED DEPRECIATION RATES

Account Number	Account	Plant @ 12/31/2017	Current Depreciation Rates	Current Depreciation Expense	Proposed Depreciation Rates	Proposed Depreciation Expense	Depreciation Expense Difference
301.00	301.00 - Organization	12,563	0.00%	0	0.00%	0	0
302.00	302.00 - Franchises and consents	0	0.00%	0	0.00%	0	0
360.00	360.00 - Land and land rights	0	0.00%	0	0.00%	0	0
360.10	360.10 - Land - Other SP	693,886	0.00%	0	0.00%	0	0
361.00	361.00 - Structures and improvements	10,298,631	2.03%	209,062	1.51%	155,509	-53,553
362.00	362.00 - Gas holders	245,056	1.39%	3,406	0.96%	2,353	-1,054
362.10	362.10 - LNG Tanks	7,691,621	1.39%	106,914	0.96%	73,840	-33,074
363.00	363.00 - Purification equipment	528,383	0.33%	1,744	0.21%	1,110	-634
363.10	363.10 - Liquefaction equipment	5,640,786	2.23%	125,790	3.59%	202,504	76,715
363.20	363.20 - Vaporizing equipment	2,361,662	1.87%	44,163	1.35%	31,882	-12,281
363.30	363.30 - Compressor equipment	2,731,450	3.81%	104,068	1.73%	47,254	-56,814
363.40	363.40 - Measuring/Reg equipment	283,077	0.24%	679	3.49%	9,879	9,200
363.50	363.50 - Other Equipment Storage	2,143,973	6.50%	139,358	7.54%	161,656	22,297
364.20	364.20 - Structures and improvements	917,579	2.03%	18,627	1.84%	16,883	-1,743
364.50	364.50 - Measure/reg equipment	970,647	0.24%	2,330	3.62%	35,137	32,808
364.80	364.80 - Other equipment - LNG	1,981,194	6.50%	128,778	7.62%	150,967	22,189
374.00	374.00 - Land and land rights	0	0.00%	0	0.00%	0	0
374.20	374.20 - Land Rights - DP	787,678	1.47%	11,579	1.17%	9,216	-2,363
375.00	375.00 - Structures and Improvements	259,496	2.73%	7,084	3.80%	9,861	2,777
376.00	376.00 - Mains	189,386	1.96%	3,712	1.95%	3,693	-19
376.10	376.10 - Mains - Steel	37,516,129	1.96%	735,316	1.95%	731,565	-3,752
376.20	376.20 - Mains - Plastic	95,422,740	1.96%	1,870,286	1.95%	1,860,743	-9,542
376.30	376.30 - Mains - Cast Iron	27,050	1.96%	530	1.95%	527	-3
376.50	376.50 - Mains - Misc	1,185,352	1.96%	23,233	1.95%	23,114	-119
376.97	376.97 - Mains - Unreconciled Balance	0	1.96%	0	1.95%	0	0
376.98	376.98 - Mains - CIAC Reserve	0	1.96%	0	1.95%	0	0
376.99	376.99 - Mains - CIAOC	-1,223	1.96%	-24	1.95%	-24	0
377.00	377.00 - Compressor station equipment	0	1.76%	0	0.00%	0	0
378.00	378.00 - Meas. and reg. stat. eq.-Gen	1,678,200	2.36%	39,606	2.34%	39,270	-336
379.00	379.00 - Meas. and reg. stat. eq.-City	2,732,526	1.97%	53,831	1.80%	49,185	-4,645
380.00	380.00 - Services	0	2.79%	0	2.92%	0	0
380.10	380.10 - Services - Steel	14,975,343	2.79%	417,812	2.92%	437,280	19,468
380.20	380.20 - Services - Plastic	48,310,206	2.79%	1,347,855	2.92%	1,410,658	62,803
380.50	380.50 - Services - Misc	4,714	2.79%	132	2.92%	138	6
381.00	381.00 - Meters	13,698,322	2.19%	299,993	2.97%	406,840	106,847
381.10	381.10 - Meters - ERTs	3,618,147	2.19%	79,237	6.25%	226,134	146,897
381.30	381.30 - Meters - Metretek	0	2.02%	0	0.00%	0	0
382.00	382.00 - Meter installations	3,607,205	2.43%	87,655	1.13%	40,761	-46,894
383.00	383.00 - House regulators	4,794,182	1.98%	94,925	1.73%	82,939	-11,985
384.00	384.00 - House regulator installations	303,925	2.34%	7,112	1.80%	5,471	-1,641
385.00	385.00 - Ind. measuring and regulating	138,554	1.84%	2,549	2.22%	3,076	527
386.00	386.00 - Other property-cust premises	16,919	2.92%	494	0.00%	0	-494
387.00	387.00 - Other equipment - DP	446,592	1.87%	8,351	1.86%	8,307	-45
389.00	389.00 - Land and land rights	0	0.00%	0	0.00%	0	0

SOURCE: CPAD Rate Base Workpaper RB-60-3.00.

Chattanooga Gas Company
CONSUMER ADVOCATE CALCULATION OF CURRENT & PROPOSED DEPRECIATION RATES

Account Number	Account	Plant @ 12/31/2017	Current Depreciation Rates	Current Depreciation Expense	Proposed Depreciation Rates	Proposed Depreciation Expense	Depreciation Expense Difference
389.10	389.10 - Land - GP	99,156	0.00%	0	0.00%	0	0
390.00	390.00 - Structures and improvements	6,697	0.00%	0	0.00%	0	0
391.00	391.00 - Office furniture and equip	7,699	6.16%	474	5.00%	385	-89
391.10	391.10 OFE - Software Non-Enterprise	584,521	23.28%	136,076	20.00%	116,904	-19,172
391.11	391.11 OFE - Enterprise Software	3,387,324	10.38%	351,604	10.00%	338,732	-12,872
391.12	391.12 OFE - Servers - Hardware	330,123	23.28%	76,853	20.00%	66,025	-10,828
391.20	391.20 OFE - Enterprise - 10YR Non-Enterprise	5,376,804	10.38%	558,112	8.33%	447,888	-110,224
392.00	392.00 - Transportation equipment	15,642	12.22%	1,911	12.22%	1,911	0
392.10	392.10 - TransTrans Eq - Autos & Lt Trucks	189,690	12.22%	23,180	16.12%	30,578	7,398
392.20	392.20 - TransTrans Eq - Service Trucks	623,725	9.45%	58,942	8.71%	54,326	-4,616
392.30	392.30 - TransTrans Eq - Heavy Trucks	883,640	9.45%	83,504	7.43%	65,654	-17,850
393.00	393.00 - Stores equipment	17,547	5.39%	946	4.00%	702	-244
394.00	394.00 - Tools, shop and garage equip	404,296	7.91%	31,980	7.69%	31,090	-889
395.00	395.00 - Laboratory equipment	0	0.00%	0	0.00%	0	0
396.00	396.00 - Power operated equipment	452,465	15.19%	68,729	1.87%	8,461	-60,268
397.00	397.00 - Communication equipment	441,195	12.35%	54,488	8.33%	36,752	-17,736
398.00	398.00 - Miscellaneous equipment	191,234	6.87%	13,138	6.67%	12,755	-382
	Composite Depreciation Rate	**279,223,709**	**2.66%**	**7,436,124**	**2.67%**	**7,449,894**	**13,770**

SOURCE: CPAD Rate Base Workpaper RB-60-3.00.

ATTACHMENT WHN-5

Proposed Rate Design

Attachment WHN-5
Schedule 1

CHATTANOOGA GAS COMPANY
CPAD Proposed Rate Design
Residential Service (R-1)

Tariff	Billing Determinants	Current Base Rates	Current Margin	Rate Increase	Proposed Margin	Proposed Rates	Percent Increase
Residential Service:							
Summer Bills (May - October)	345,929	$13.0000000	$4,497,077	$0	$4,497,077	$13.0000000	0.00%
Winter Bills (November - April)	352,657	16.0000000	5,642,512	0	5,642,512	16.0000000	0.00%
Total Customer Charges	**698,586**		**$10,139,589**	**$0**	**$10,139,589**		**0.00%**
All Consumption (Therms)	**36,243,358**	$0.1159100	**$4,200,968**	**-$1,275,946**	**$2,925,022**	$0.0807100	**-30.37%**
Total Residential Service Margin			**$14,340,557**	**-$1,275,946**	**$13,064,611**		**-8.90%**
				-$1,275,946			

SOURCE: *CPAD Revenue Workpaper R-10-1.00.*

CHATTANOOGA GAS COMPANY
CPAD Proposed Rate Design
Multi-Family Housing Service (R-4)

Tariff	Billing Determinants	Current Base Rates	Current Margin	Rate Increase	Proposed Margin	Proposed Rates	Percent Increase
Multi-Family Housing Service:							
Summer Bills (May - October)	1,107	$6.0000000	$6,642	$0	$6,642	$6.0000000	0.00%
Winter Bills (November - April)	1,095	6.0000000	6,570	0	6,570	6.0000000	0.00%
Total Customer Charges	**2,202**		**$13,212**	**$0**	**$13,212**		**0.00%**
Summer Consumption (May - October Therms)	16,749	$0.1935000	$3,241	-$546	$2,695	$0.1609300	-16.83%
Winter Consumption (November - April Therms)	53,177	0.2176800	11,576	-1,948	9,627	$0.1810400	-16.83%
Total Consumption (Therms)	**69,926**		**$14,817**	-$2,494	**$12,323**		**-16.83%**
Total Multi-Family Housing Service Margin			**$28,029**	-$2,494	**$25,535**		**-8.90%**
				-$2,494			

***SOURCE**: CPAD Revenue Workpaper R-11-1.00.*

CHATTANOOGA GAS COMPANY
CPAD Proposed Rate Design
Small Commercial & Industrial General Service (C-1)

Tariff	Billing Determinants	Current Base Rates	Current Margin	Rate Increase	Proposed Margin	Proposed Rates	Percent Increase
Small Commercial & Industrial General Service:							
Summer Bills (May - October)	39,279	$25.0000000	$981,975	$0	$981,975	$25.0000000	0.00%
Winter Bills (November - April)	40,923	29.0000000	1,186,767	0	1,186,767	29.0000000	0.00%
Total Customer Charges	**80,202**		**$2,168,742**	**$0**	**$2,168,742**		**0.00%**
Summer Consumption (May - October Therms)	893,452	$0.1458900	$130,346	-$30,427	$99,919	$0.1118300	-23.34%
Winter Consumption (November - April Therms)	6,487,378	0.1858100	1,205,420	-281,385	924,035	$0.1424400	-23.34%
Total Consumption (Therms)	**7,380,830**		**$1,335,765**	-$311,812	**$1,023,953**		**-23.34%**
Total Small Commercial & Industrial General Service Margin			**$3,504,507**	-$311,812	**$3,192,695**		**-8.90%**
				-$311,812			

***SOURCE**: CPAD Revenue Workpaper R-20-1.00.*

CHATTANOOGA GAS COMPANY
CPAD Proposed Rate Design
Medium Commercial & Industrial General Sales and Transportation Service (C-2 & T-3)

Attachment WHN-5
Schedule 4

Tariff	C-2 Billing Determinants	T-3 Billing Determinants	Total Billing Determinants	Current Base Rates	Current Margin	Rate Increase	Proposed Margin	Proposed Rates	Percent Increase
Medium Commercial & Industrial General Service:									
Customer Charges:									
Summer Bills (May - October)	10,565	289	10,854	$75.0000000	$814,050	$0	$814,050	$75.0000000	0.00%
Winter Bills (November - April)	10,774	287	11,061	75.0000000	829,575	0	829,575	75.0000000	0.00%
Total Customer Charges	**21,339**	**576**	**21,915**		**$1,643,625**	**$0**	**$1,643,625**		**0.00%**
Commodity Charges:									
Summer Commodity Charges (May - October):									
Summer Consumption-Step 1 (0 - 3,000 Therms/Month)	5,370,942	581,256	5,952,198	$0.1471700	$875,985	-$138,064	$737,921	$0.1239700	-15.76%
Summer Consumption-Step 2 (3,001 - 5,000 Therms/Month)	638,735	304,830	943,565	0.1168300	110,237	-17,374	92,862	0.0984200	-15.76%
Summer Consumption-Step 3 (5,001 - 15,000 Therms/Month)	834,151	889,684	1,723,835	0.1089200	187,760	-29,593	158,167	0.0917500	-15.76%
Summer Consumption-Step 4 (Over 15,000 Therms/Month)	266,977	537,387	804,364	0.0862300	69,360	-10,932	58,428	0.0726400	-15.76%
Total Summer Consumption (Therms)	**7,110,805**	**2,313,157**	**9,423,962**		**$1,243,342**	**-$195,963**	**$1,047,379**		**-15.76%**
Winter Commodity Charges (May - October):									
Winter Consumption-Step 1 (0 - 3,000 Therms/Month)	14,791,883	1,023,915	15,815,798	$0.1874400	$2,964,513	-$467,237	$2,497,276	$0.1579000	-15.76%
Winter Consumption-Step 2 (3,001 - 5,000 Therms/Month)	1,759,110	536,975	2,296,085	0.1710900	392,837	-61,915	330,922	0.1441200	-15.76%
Winter Consumption-Step 3 (5,001 - 15,000 Therms/Month)	2,297,299	1,567,229	3,864,528	0.1666600	644,062	-101,511	542,551	0.1403900	-15.76%
Winter Consumption-Step 4 (Over 15,000 Therms/Month)	735,268	946,638	1,681,906	0.0862300	145,031	-22,858	122,172	0.0726400	-15.76%
Total Winter Consumption (Therms)	**19,583,560**	**4,074,757**	**23,658,317**		**$4,146,443**	**-$653,522**	**$3,492,922**		**-15.76%**
Total Commodity Charges	**26,694,365**	**6,387,914**	**33,082,279**		**$5,389,785**	**-$849,485**	**$4,540,300**		**-15.76%**
Demand Charges:									
Billing Demand (Therms)	**3,951,336**	**623,024**	**4,574,360**	$0.5500000	**$2,515,898**	**$0**	**$2,515,898**	$0.5500000	**0.00%**
Economic Development Discounts:									
Billing Adjustments for Economic Development Adjustments					**-$1,804**	**$0**	**-$1,804**		**0.00%**
Medium Commercial & Industrial General Service Sales & Transportation Margin					**$9,547,504**	-$849,485	**$8,698,019**		**-8.90%**
						-$849,485	**$8,698,019**		

SOURCE *: CPAD Revenue Workpapers R-21-1.00 and R-33-1.00*

CHATTANOOGA GAS COMPANY
CPAD Proposed Rate Design
Large Commercial & Industrial Sales and Transportation Service (F-1, I-1, T-1 & T-2)

Tariff	F-1 Billing Determinants	I-1 Billing Determinants	T-1 Billing Determinants	T-2 Billing Determinants	Total Billing Determinants	Current Base Rates	Current Margin	Rate Increase	Proposed Margin	Proposed Rates	Percent Increase
Large Commercial & Industrial Service:											
Customer Charges:											
Summer Bills (May - October)	186	6	107	84	383	$300.0000000	$114,900	$0	$114,900	$300.0000000	0.00%
Winter Bills (November - April)	188	6	106	84	384	300.0000000	115,200	0	115,200	300.0000000	0.00%
Total Customer Charges	374	12	213	168	767		$230,100	$0	$230,100		0.00%
Commodity Charges:											
Summer Commodity Charges (May - October):											
Step 1 (0 - 15,000 Therms/Month)	5,419,097	180,000	2,671,708	2,474,062	10,744,867	$0.0806400	$866,466	-$113,867	$752,599	$0.0700400	-13.14%
Step 2 (15,001 - 40,000 Therms/Month)	6,097,936	255,454	3,693,480	3,433,970	13,480,840	0.0689100	928,965	-122,080	806,885	0.0598500	-13.14%
Step 3 (40,001 - 150,000 Therms/Month)	7,242,311	14,212	6,082,145	7,926,817	21,265,485	0.0390800	831,055	-109,213	721,842	0.0339400	-13.14%
Step 4 (Over 150,000 Therms/Month)	1,795,915	0	6,968,859	6,272,062	15,036,836	0.0240200	361,185	-47,465	313,720	0.0208600	-13.14%
Total Commodity Charges	20,555,259	449,666	19,416,192	20,106,911	60,528,028		$2,987,671	-$392,625	$2,595,046		-13.14%
Demand Charges:											
Billing Demand (Therms)	1,286,959	0	0	498,780	1,785,739	$0.5500000	$982,156	$0	$982,156	$0.5500000	0.00%
Capacity Charges:											
Billing Demand (Therms)	0	0	1,060,789	515,843	1,576,632	$0.1350000	$212,845	$0	$212,845	$0.1400000	0.00%
Large Commercial & Industrial Sales & Transportation Margin							$4,412,772	-$392,625	$4,020,148		-8.90%
								-$392,625	$4,020,148		

SOURCE: CPAD Revenue Workpapers R-22-1.00, R-30-1.00, R-31-1.00 and R-32-1.00.

CHATTANOOGA GAS COMPANY
CPAD Proposed Rate Design
Special Contract Service (SC)

Tariff	Total Billing Determinants	Current Base Rates	Current Margin	Rate Increase	Proposed Margin	Proposed Rates	Percent Increase
Special Contract Service:							
CONTAINS PROPRIETARY DATA							
Special Contract Margin			$141,302	-$12,572	$128,730		-8.90%
				-$12,572	$128,730		

SOURCE: CPAD Revenue Workpapers R-34-1.00.

CHATTANOOGA GAS COMPANY
CPAD Proposed Rate Design
Other Revenue

Attachment WHN-5
Schedule 7

Tariff	Total Billing Determinants	Current Base Rates	Current Margin	Rate Increase	Proposed Margin	Proposed Rates	Percent Increase
Other Revenue:							
Forfeited Discounts	N/A	N/A	$280,275	-24,939	$255,336	N/A	-8.90%
Returned Check Charges	544	$20.00	10,898	0	10,898	$20.00	0.00%
Reconnect Charges	1,702	$65.00 / $50.00	107,388	0	107,388	$65.00 / $50.00	0.00%
Seasonal Reconnect Charges	241	$65.00 / $50.00	14,429	0	14,429	$65.00 / $50.00	0.00%
Turn-On Charges	8,466	$15.00 / $25.00	129,375	0	129,375	$15.00 / $25.00	0.00%
Meter Set Charges	1,299	$15.00 / $25.00	32,560	0	32,560	$15.00 / $25.00	0.00%
Miscellaneous Charges	N/A	N/A	14,571	0	14,571	N/A	0.00%
Damage Billing charges	N/A	N/A	85,625	0	85,625	N/A	0.00%
Total Other Revenue			**$675,121**	-$24,939	**$650,182**		**-3.69%**
				-$24,939	**$650,182**		

SOURCE: *CPAD Revenue Workpaper R-60-1.00.*

ATTACHMENT WHN-6

July 20, 2017 Email from Archie Hickerson

2017 AUA Rate Calculation filed 6-30-2017 Cell K268 Corrected.xlsx

Hickerson, Archie R. <ahickers@southernco.com>

Thu 7/20/2017 9:02 AM

To:Hal Novak <halnovak@WHNConsulting.com>;

1 attachments (73 KB)

2017 AUA Rate Calculation filed 6-30-2017 Cell K268 Corrected.xlsx;

Hal
There is an error in the Cell K 268 in the file that I forwarded you Friday.

RE: Chattanooga Gas AUA Reconciliations

Hickerson, Archie R. <ahickers@southernco.com>

Mon 7/17/2017 7:10 AM

To:Hal Novak <halnovak@WHNConsulting.com>;

8 attachments (10 MB)

2017 AUA Rate Calculation filed 6-30-2017.xlsx; AUA 2016 Revised R-1 AUA.xlsx; AUA 2016 6-27-2016 Filing.xlsx; 2015 Draft 618-2015.xlsx; 2014 as Filed 6-25-2014.xlsx; 2013.xlsx; 2012 FILED.xlsx; Filed June 28, 2011.xlsx;

Hal

Attached are the AUA tariff filings. The spreadsheet that I e-mailed Friday is from the June 30, 2017 filing. Last year there were two filing. After the initial filing was made, it was determined that base revenues that had been used to accrue the AUA excess/deficiency was incorrect resulting in an incorrect balance as of May 31, 2016. As a result the R-1 AUA was recomputed and revised effective January 1, 2017.

From: Hal Novak [mailto:halnovak@WHNConsulting.com]
Sent: Friday, July 14, 2017 5:33 PM
To: Hickerson, Archie R.
Cc: jwluna@lunalawnashville.com; Vance Broemel; Alex Bradley
Subject: Re: Chattanooga Gas AUA Reconciliations

Archie -

Was there actually a tariff filing ever made to implement the AUA reconciliations? If so, can I have a copy of those filings?

Hal Novak, CPA
WHN CONSULTING
www.whnconsulting.com

Phone: 713-298-1760

From: Hickerson, Archie R. <ahickers@southernco.com>
Sent: Friday, July 14, 2017 4:06 PM
To: Hal Novak

Cc: jwluna@lunalawnashville.com; Vance Broemel; Alex Bradley
Subject: RE: Chattanooga Gas AUA Reconciliations

Hal

See the attached spreadsheet.

From: Hal Novak [mailto:halnovak@WHNConsulting.com]
Sent: Friday, July 14, 2017 4:57 PM
To: Hickerson, Archie R.
Cc: jwluna@lunalawnashville.com; Vance Broemel; Alex Bradley
Subject: Chattanooga Gas AUA Reconciliations

Archie -

I'm looking over the information that you compiled for the WNA implementation. Can you also provide me with AUA reconciliations since the last rate case.

Thanks.

Hal Novak, CPA
WHN CONSULTING
www.whnconsulting.com

Phone: 713-298-1760

Chattanooga Gas Company
Calculation of AUA Adjustment Recovery Rates

Chattanooga Gas Company
R-1 and C-1 AUA
Effective August 1, 2017

R-1 Residential AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
May-10									$0.00
Jun-10	14.48	775,238.92	52,885	14.66	(9,458.83)	$0.00	3.25%	-	(9,458.83)
Jul-10	14.24	762,031.94	52,568	14.50	(13,558.24)	$0.00	3.25%	(25.62)	(23,042.69)
Aug-10	14.28	751,550.61	52,327	14.36	(4,137.91)	$0.00	3.25%	(62.41)	(27,243.00)
Sep-10	14.23	751,897.55	52,318	14.37	(7,192.67)	$0.00	3.25%	(73.78)	(34,509.46)
Oct-10	15.18	784,291.25	52,722	14.88	15,817.82	$0.00	3.25%	(93.46)	(18,785.10)
Nov-10	21.87	1,087,203.87	53,406	20.36	81,015.00	$0.00	3.25%	(50.88)	62,179.02
Dec-10	27.30	1,574,450.76	54,063	29.12	(98,509.23)	$0.00	3.25%	168.40	(36,161.82)
Jan-11	31.39	1,945,908.84	54,346	35.81	(239,743.34)	$0.00	3.25%	(97.94)	(276,003.10)
Feb-11	30.46	1,747,978.50	54,435	32.11	(89,784.97)	$0.00	3.25%	(747.51)	(366,535.58)
Mar-11	26.75	1,369,452.18	54,283	25.23	82,428.08	$0.00	3.25%	(992.70)	(285,100.20)
Apr-11	22.28	1,199,368.35	54,034	22.20	4,563.20	$0.00	3.25%	(772.15)	(281,309.14)
May-11	$ 15.82	$850,749.99	53680	$15.85	($1,398.19)	$0.00	0.0325	($761.88)	($283,469.21)
Total 12 Months Ended 5/31/2011		$13,600,122.76			($279,959.29)	$0.00		($3,509.92)	

R-1 Residential AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-11	$14.48	$797,804.86	53,330	$14.96	($25,581.13)	$0.00	3.25%	($767.73)	($309,818.07)
Jul-11	14.24	767,467.39	52,956	14.49	(13,469.27)	$2.08	3.25%	(839.09)	(324,124.35)
Aug-11	14.28	759,999.88	52,806	14.39	(5,745.38)	$4,145.23	3.25%	(877.84)	(326,602.34)
Sep-11	14.23	761,749.58	52,738	14.44	(11,066.34)	$4,663.50	3.25%	(884.55)	(333,889.72)
Oct-11	15.18	805,102.04	53,114	15.16	956.02	$7,381.38	3.25%	(904.28)	(326,456.60)
Nov-11	21.87	1,158,143.52	53,808	21.52	18,868.81	$19,879.33	3.25%	(884.15)	(288,592.61)
Dec-11	27.30	1,379,397.92	54,253	25.43	101,730.68	$32,677.62	3.25%	(781.60)	(154,965.92)
Jan-12	31.39	1,574,713.81	54,451	28.92	134,748.11	$44,780.98	3.25%	(419.70)	24,143.47
Feb-12	30.46	1,512,298.87	54,569	27.71	149,976.55	$40,683.70	3.25%	65.39	214,869.11
Mar-12	26.75	1,330,328.94	54,465	24.43	126,419.18	$28,793.24	3.25%	581.94	370,663.47
Apr-12	22.28	1,026,581.01	54,117	18.97	179,199.87	$9,717.82	3.25%	1,003.88	560,585.04
May-12	15.82	839,488.55	53,777	15.61	11,398.03	$7,873.08	3.25%	1,518.25	581,374
Total 12 Months Ended 5/31/2012		$12,713,076.37			$667,435.15	$200,597.96		($3,189.49)	
					$387,475.85	$200,597.96		($6,699.41)	

Chattanooga Gas Company
Calculation of AUA Adjustment Recovery Rates

R-1 Residential AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-12	$14.48	$783,448.63	53,410	$14.67	($10,066.49)	$5,356.97	3.25%	$1,574.56	$578,239.44
Jul-12	14.24	769,282.37	53,149	14.47	(12,536.28)	$4,576.47	3.25%	1,566.07	571,845.70
Aug-12	14.28	761,725.60	53,081	14.35	(3,543.14)	($4,523.76)	3.25%	1,548.75	565,327.55
Sep-12	14.23	764,483.38	53,014	14.42	(9,871.50)	($5,581.97)	3.25%	1,531.10	551,405.17
Oct-12	15.18	801,246.46	53,463	14.99	10,108.03	($8,285.55)	3.25%	1,493.39	554,721.04
Nov-12	21.87	1,132,069.65	54,193	20.89	53,364.29	($22,551.33)	3.25%	1,502.37	587,036.37
Dec-12	27.30	1,364,276.26	54,571	25.00	125,533.87	($37,044.32)	3.25%	1,589.89	677,115.81
Jan-13	31.39	1,596,026.83	54,811	29.12	124,737.11	($54,382.87)	3.25%	1,833.86	749,303.90
Feb-13	30.46	1,640,025.19	54,928	29.86	33,186.05	($57,467.76)	3.25%	2,029.36	727,051.56
Mar-13	26.75	1,637,813.59	54,992	29.78	(166,970.06)	($57,134.33)	3.25%	1,969.10	504,916.27
Apr-13	22.28	1,394,016.32	54,791	25.44	(173,218.05)	($38,631.47)	3.25%	1,367.48	294,434.23
May-13	15.82	907,021.61	54,363	16.68	(46,863.04)	($13,946.37)	3.25%	797.43	234,422
Total 12 Months Ended 5/31/2013		$13,551,435.89			($76,139.21)	($289,616.29)		$18,803.34	
					$311,336.64			$12,103.93	

R-1 Residential AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-13	$14.48	$812,457.91	54,042	$15.03	($29,924.35)	($7,749.65)	3.25%	$634.89	$197,383.14
Jul-13	14.24	780,393.39	53,679	14.54	(16,101.05)	(5,810.03)	3.25%	534.58	176,006.64
Aug-13	14.28	773,609.17	53,446	14.47	(10,213.23)	(5,011.77)	3.25%	476.68	161,258.32
Sep-13	14.23	771,578.47	53,385	14.45	(11,685.70)	(4,938.39)	3.25%	436.74	145,070.97
Oct-13	15.18	789,484.43	53,709	14.70	25,603.35	(6,113.59)	3.25%	392.90	164,953.64
Nov-13	21.87	1,132,314.53	54,560	20.75	61,147.28	(19,120.68)	3.25%	446.75	207,426.98
Dec-13	27.30	1,562,122.07	55,051	28.38	(59,207.75)	(44,574.77)	3.25%	561.78	104,206.25
Jan-14	31.39	1,843,767.15	55,342	33.32	(106,332.73)	(62,773.75)	3.25%	282.23	(64,618.01)
Feb-14	30.46	1,985,428.90	55,529	35.75	(293,910.05)	(71,647.00)	3.25%	(175.01)	(430,350.07)
Mar-14	26.75	1,551,188.57	55,459	27.97	(67,854.43)	(43,162.93)	3.25%	(1,165.53)	(542,532.96)
Apr-14	22.28	1,275,560.54	55,233	23.09	(44,914.07)	(25,163.24)	3.25%	(1,469.36)	(614,079.63)
May-14	15.82	883,356.14	54,767	16.13	(16,805.28)	(9,947.97)	3.25%	(1,663.13)	(642,496.01)
Total 12 Months Ended 5/31/2014		$14,161,261.27			($570,198.01)	($306,013.77)		($706.48)	
					($258,861.37)			$11,397.46	

Chattanooga Gas Company
Calculation of AUA Adjustment Recovery Rates

R-1 Residential AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-14	$14.48	$780,864.66	54,349	$14.37	$6,114.29	($6,405.50)	3.25%	($1,740.09)	($644,527.31)
Jul-14	14.24	786,341.41	54,056	14.55	(16,681.27)	($5,076.01)	3.25%	(1,745.59)	(668,030.19)
Aug-14	14.28	780,351.25	53,843	14.49	(11,284.76)	$3,837.92	3.25%	(1,809.25)	(677,286.27)
Sep-14	14.23	776,731.49	53,817	14.43	(10,689.55)	$4,505.18	3.25%	(1,834.32)	(685,304.96)
Oct-14	15.18	799,452.24	54,239	14.74	23,678.82	$5,878.19	3.25%	(1,856.03)	(657,603.98)
Nov-14	21.87	1,176,841.79	55,096	21.36	28,344.64	$19,823.77	3.25%	(1,781.01)	(611,216.58)
Dec-14	27.30	1,549,582.30	55,619	27.86	(31,161.35)	$39,680.18	3.25%	(1,655.38)	(604,353.13)
Jan-15	31.39	1,741,131.42	55,840	31.18	11,937.46	$50,978.16	3.25%	(1,636.79)	(543,074.30)
Feb-15	30.46	1,821,281.25	55,985	32.53	(115,871.78)	$55,631.90	3.25%	(1,470.83)	(604,785.00)
Mar-15	26.75	1,805,493.77	56,041	32.22	(306,593.16)	$54,489.66	3.25%	(1,637.96)	(858,526.47)
Apr-15	22.28	1,189,019.32	55,671	21.36	51,386.23	$17,411.78	3.25%	(2,325.18)	(792,053.63)
May-15	15.82	948,103.94	55,260	17.16	(73,752.59)	$8,379.62	3.25%	(2,145.15)	(859,571.75)
Total 12 Months Ended 5/31/2015		$14,155,194.84			($444,573.01)	$249,134.85		($21,637.57)	
					($703,434.38)	$249,134.85		($10,240.12)	

R-1 Residential AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-15	$14.48	$803,898.73	55,000	$14.62	($7,493.23)	$5,204.48	3.25%	($2,328.01)	($864,188.50)
Jul-15	14.24	793,203.51	54,790	14.48	(13,092.53)	$4,516.92	3.25%	(2,340.51)	(875,104.63)
Aug-15	14.28	783,754.50	54,629	14.35	(3,461.18)	$4,309.22	3.25%	(2,370.08)	(876,626.66)
Sep-15	14.23	791,704.69	54,644	14.49	(13,891.07)	$4,771.99	3.25%	(2,374.20)	(888,119.93)
Oct-15	15.18	814,502.61	54,928	14.83	19,084.72	$6,272.26	3.25%	(2,405.32)	(865,168.28)
Nov-15	21.87	1,075,378.76	55,524	19.37	139,169.87	$12,589.22	3.25%	(2,343.16)	(715,752.35)
Dec-15	27.30	1,324,077.72	56,045	23.63	205,973.20	$26,408.07	3.25%	(1,938.50)	(485,309.58)
Jan-16	31.39	1,546,435.67	56,351	27.44	222,675.80	$39,852.64	3.25%	(1,314.38)	(224,095.52)
Feb-16	30.46	1,805,790.79	56,569	31.92	(82,591.57)	$55,762.19	3.25%	(606.93)	(251,531.82)
Mar-16	26.75	1,494,855.34	56,536	26.44	17,284.78	$36,059.68	3.25%	(681.23)	(198,868.59)
Apr-16	22.28	1,167,725.72	56,318	20.73	87,095.64	$16,145.81	3.46%	(573.40)	(96,200.55)
May-16	15.82	887,034.96	56,030	15.83	(500.29)	$8,806.22	3.46%	(277.38)	(88,171.99)
Total 12 Months Ended 5/31/2016		$13,288,363.00			$570,254.15	$220,698.70		($19,553.09)	
Total 5/31/2016					($133,180.23)	$74,801.45		($29,793.21)	($88,171.99)

Chattanooga Gas Company
Calculation of AUA Adjustment Recovery Rates

R-1 Residential AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-16	$14.48	$820,874.38	55,708	$14.74	($14,216.97)	$5,746.65	3.46%	($254.23)	($96,896.54)
Jul-16	14.24	798,798.86	55,514	14.39	(8,379.43)	$4,574.28	3.50%	(282.61)	(100,984.30)
Aug-16	14.28	793,315.06	55,375	14.33	(2,366.25)	($5,153.65)	3.50%	(294.54)	(108,798.73)
Sep-16	14.23	793,626.44	55,266	14.36	(6,959.14)	($5,354.22)	3.50%	(317.33)	(121,429.43)
Oct-16	15.18	803,887.73	55,440	14.50	37,469.71	($6,093.00)	3.50%	(354.17)	(90,406.88)
Nov-16	21.87	1,050,576.39	56,039	18.75	175,237.51	($12,642.97)	3.50%	(263.69)	71,923.97
Dec-16	27.30	1,445,793.58	56,786	25.46	104,486.93	($39,808.99)	3.50%	209.78	136,811.69
Jan-17	31.39	1,646,222.04	57,087	28.84	145,995.78	$28,600.61	3.50%	399.03	311,807.11
Feb-17	30.46	1,466,701.09	57,148	25.66	274,135.57	$26,462.19	3.50%	909.44	613,314.31
Mar-17	26.75	1,388,251.25	57,166	24.28	140,739.17	$22,622.81	3.50%	1,788.83	778,465.13
Apr-17	22.28	1,218,247.59	56,994	21.38	51,635.72	$14,302.80	3.71%	2,406.75	846,810.40
May-17	15.82	880,975.86	56,706	15.54	16,254.82	$6,147.75	3.71%	2,618.06	871,831.03
Total 12 Months Ended 5/31/2017		$13,107,270.27			$914,033.44	$39,404.26		$6,565.33	
Total 5/31/2017					$780,853.21	$114,205.71		($23,227.89)	$871,831.03

Total R-1 Residential AUA Ending Balance	$	871,831
Total R-1 Base Revenue	$	13,107,270
2% Cap of Total R-1 Revenue	$	262,145
R-1 Revenue to be Recovered (Credited)	$	262,145
Recovery Period Total Volume in Therms		28,181,508
R-1 Residential AUA Rate	$	0.00930
Residiual Carry Forward	$	609,686

Chattanooga Gas Company
Calculation of AUA Adjustment Recovery Rates

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
May-10									$0.00
Jun-10	31.73	183,109.69	6,417	28.54	20,504.93	$0.00	3.25%	0.00	20,504.93
Jul-10	30.47	177,629.43	6,348	27.98	15,797.30	$0.00	3.25%	55.53	36,357.77
Aug-10	29.96	179,506.83	6,288	28.55	8,892.34	$0.00	3.25%	98.47	45,348.58
Sep-10	29.84	169,061.14	6,155	27.47	14,621.29	$0.00	3.25%	122.82	60,092.69
Oct-10	30.07	172,140.51	6,218	27.68	14,849.05	$0.00	3.25%	162.75	75,104.49
Nov-10	42.10	223,419.80	6,383	35.00	45,293.01	$0.00	3.25%	203.41	120,600.91
Dec-10	57.43	380,699.99	6,586	57.80	(2,434.40)	$0.00	3.25%	326.63	118,493.14
Jan-11	72.07	560,132.15	6,663	84.07	(79,933.74)	$0.00	3.25%	320.92	38,880.32
Feb-11	72.57	506,455.36	6,656	76.09	(23,439.42)	$0.00	3.25%	105.30	15,546.20
Mar-11	62.05	355,545.19	6,620	53.71	55,235.74	$0.00	3.25%	42.10	70,824.04
Apr-11	48.63	285,312.86	6,531	43.69	32,260.93	$0.00	3.25%	191.82	103,276.79
May-11	$ 33.03	195,146.52	6448	$30.26	17,830.92	$0.00	3.25%	279.71	$121,387.42
Total 12 Months Ended 5/31/2011		$3,388,159.47			$119,477.96			$1,909.46	

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-11	$31.73	$181,145.46	6,344	$28.55	$20,152.83	$0.00	3.25%	$328.76	$141,869.01
Jul-11	30.47	176,332.80	6,291	28.03	15,357.12	$0.12	3.25%	384.23	157,610.47
Aug-11	29.96	175,721.04	6,262	28.06	11,899.13	($961.36)	3.25%	426.86	168,975.10
Sep-11	29.84	174,131.52	6,286	27.70	13,460.32	($1,140.28)	3.25%	457.64	181,752.78
Oct-11	30.07	181,374.76	6,342	28.60	9,343.77	($1,539.00)	3.25%	492.25	190,049.79
Nov-11	42.10	252,726.78	6,507	38.84	21,206.21	($3,653.12)	3.25%	514.72	208,117.60
Dec-11	57.43	337,873.24	6,624	51.01	42,574.88	($7,294.09)	3.25%	563.65	243,962.04
Jan-12	72.07	423,127.04	6,676	63.38	58,008.27	($11,494.71)	3.25%	660.73	291,136.33
Feb-12	72.57	408,133.86	6,690	61.01	77,349.41	($10,712.42)	3.25%	788.49	358,561.81
Mar-12	62.05	348,767.47	6,651	52.44	63,937.06	($7,656.36)	3.25%	971.10	415,813.61
Apr-12	48.63	238,276.86	6,517	36.56	78,616.18	($2,327.53)	3.25%	1,126.16	493,228.42
May-12	33.03	194,961.91	6,422	30.36	17,156.75	($1,712.88)	3.25%	1,335.83	510,008.12
Total 12 Months Ended 5/31/2012		$3,092,572.74			$429,061.90	($48,491.63)		$8,050.42	

Chattanooga Gas Company
Calculation of AUA Adjustment Recovery Rates

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-12	$31.73	$180,276.36	6,350	$28.39	$21,212.32	($1,308.90)	3.25%	$1,381.27	$531,292.80
Jul-12	30.47	176,746.55	6,298	28.06	15,156.66	($1,226.64)	3.25%	1,438.92	546,661.74
Aug-12	29.96	176,270.31	6,273	28.10	11,679.43	($1,416.39)	3.25%	1,480.54	558,405.33
Sep-12	29.84	175,903.69	6,263	28.09	11,001.77	($1,474.78)	3.25%	1,512.35	569,444.66
Oct-12	30.07	178,020.34	6,414	27.75	14,863.39	($1,441.13)	3.25%	1,542.25	584,409.17
Nov-12	42.10	241,173.89	6,574	36.69	35,579.68	($3,839.88)	3.25%	1,582.77	617,731.74
Dec-12	57.43	334,197.26	6,657	50.20	48,146.20	($8,537.66)	3.25%	1,673.02	659,013.31
Jan-13	72.07	432,475.36	6,718	64.38	51,686.87	($14,317.36)	3.25%	1,784.83	698,167.65
Feb-13	72.57	457,672.81	6,738	67.92	31,293.74	($15,798.46)	3.25%	1,890.87	715,553.80
Mar-13	62.05	457,987.61	6,746	67.89	(39,388.19)	($15,764.98)	3.25%	1,937.96	662,338.59
Apr-13	48.63	376,860.15	6,687	56.36	(51,700.76)	($10,890.91)	3.25%	1,793.83	601,540.75
May-13	33.03	210,194.26	6,595	31.87	7,638.59	($2,907.63)	3.25%	1,629.17	607,900.88
Total 12 Months Ended 5/31/2013		$3,397,778.59			$157,169.70	($78,924.72)		$19,647.79	

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-13	$31.73	$187,575.71	6,516	$28.79	$19,180.23	($1,770.99)	3.25%	$1,646.40	$626,956.52
Jul-13	30.47	180,197.98	6,466	27.87	16,824.27	($1,426.86)	3.25%	1,698.01	644,051.94
Aug-13	29.96	180,967.48	6,414	28.21	11,206.86	($1,320.47)	3.25%	1,744.31	655,682.64
Sep-13	29.84	179,870.80	6,396	28.12	11,003.75	($1,307.57)	3.25%	1,775.81	667,154.62
Oct-13	30.07	182,716.17	6,434	28.40	10,769.01	($1,459.59)	3.25%	1,806.88	678,270.92
Nov-13	42.10	248,607.15	6,620	37.55	30,082.93	($3,644.94)	3.25%	1,836.98	706,545.90
Dec-13	57.43	411,482.78	6,736	61.09	(24,601.97)	($11,110.19)	3.25%	1,913.56	672,747.30
Jan-14	72.07	563,759.11	6,794	82.98	(74,119.61)	($18,788.86)	3.25%	1,822.02	581,660.86
Feb-14	72.57	654,784.20	6,810	96.15	(160,592.72)	($23,366.19)	3.25%	1,575.33	399,277.28
Mar-14	62.05	468,785.97	6,813	68.81	(46,029.10)	($13,800.17)	3.25%	1,081.38	340,529.39
Apr-14	48.63	330,307.54	6,748	48.95	(2,181.99)	($6,743.28)	3.25%	922.27	332,526.39
May-14	33.03	211,822.03	6,617	32.01	6,737.48	($2,473.44)	3.25%	900.59	337,691.02
Total 12 Months Ended 5/31/2014		$3,800,876.92			($201,720.84)	($87,212.55)		$18,723.53	

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Chattanooga Gas Company
Calculation of AUA Adjustment Recovery Rates

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-14	$31.73	$189,004.85	6,504	$29.06	$17,370.32	($1,609.57)	3.25%	$914.58	$354,366.35
Jul-14	30.47	183,047.22	6,449	28.38	13,457.03	($1,379.46)	3.25%	959.74	367,403.67
Aug-14	29.96	182,456.30	6,395	28.53	9,148.77	($1,262.36)	3.25%	995.05	376,285.13
Sep-14	29.84	181,084.20	6,364	28.45	8,835.38	($1,224.29)	3.25%	1,019.11	384,915.33
Oct-14	30.07	182,945.10	6,410	28.54	9,818.34	($1,346.55)	3.25%	1,042.48	394,429.60
Nov-14	42.10	264,542.81	6,609	40.03	13,684.19	($3,837.41)	3.25%	1,068.25	405,344.63
Dec-14	57.43	380,904.98	6,575	57.93	(3,271.17)	($8,501.47)	3.25%	1,097.81	394,669.80
Jan-15	72.07	458,404.89	6,623	69.21	18,910.75	($11,911.16)	3.25%	1,068.90	402,738.28
Feb-15	72.57	527,213.19	6,662	79.14	(43,761.84)	($14,906.06)	3.25%	1,090.75	345,161.13
Mar-15	62.05	525,086.71	6,680	78.61	(110,582.69)	($14,724.29)	3.25%	934.81	220,788.96
Apr-15	48.63	282,176.82	6,557	43.03	36,661.24	($3,928.21)	3.46%	636.61	254,158.59
May-15	33.03	205,139.80	6,418	31.96	6,846.74	($1,350.78)	3.46%	732.82	260,387.38
Total 12 Months Ended 5/31/2015		$3,562,006.87			($22,882.93)	($65,981.61)		$11,560.90	

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-15	$31.73	$173,032.27	6,340	$27.29	$28,139.10	($946.76)	3.25%	$705.22	$288,284.93
Jul-15	30.47	170,597.68	6,298	27.09	21,305.53	($856.32)	3.25%	780.77	309,514.92
Aug-15	29.96	169,997.71	6,286	27.04	18,341.54	($907.49)	3.25%	838.27	327,787.23
Sep-15	29.84	169,931.56	6,275	27.08	17,332.01	($796.69)	3.25%	887.76	345,210.31
Oct-15	30.07	171,442.08	6,299	27.22	17,983.34	($1,130.00)	3.25%	934.94	362,998.59
Nov-15	42.10	220,806.80	6,442	34.28	50,389.80	($2,021.04)	3.25%	983.12	412,350.48
Dec-15	57.43	298,021.41	6,566	45.39	79,095.49	($5,266.00)	3.25%	1,116.78	487,296.75
Jan-16	72.07	385,282.02	6,641	58.02	93,330.87	($9,365.25)	3.25%	1,319.76	572,582.12
Feb-16	72.57	515,582.52	6,691	77.06	(30,026.69)	($15,582.17)	3.25%	1,550.74	528,524.01
Mar-16	62.05	415,351.25	6,675	62.22	(1,157.49)	($10,669.15)	3.25%	1,431.42	518,128.79
Apr-16	48.63	262,872.94	6,582	39.94	57,180.76	($3,321.68)	3.46%	1,493.94	573,481.81
May-16	33.03	197,150.63	6,485	30.40	17,048.92	($1,824.03)	3.46%	1,653.54	590,360.24
Total 12 Months Ended 5/31/2016		$3,150,068.87			$368,963.17	($52,686.58)		$13,696.26	
Total		$20,391,463.46			$850,068.96	($333,297.09)		$73,588.37	$590,360.24

Chattanooga Gas Company
Calculation of AUA Adjustment Recovery Rates

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Month	Bench Mark Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue Deficiency/(Surplus)	Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
Jun-16	$31.73	$181,204.48	6,419	$28.23	$22,473.60	($1,216.18)	3.46%	$1,702.21	$613,319.86
Jul-16	30.47	177,081.85	6,375	27.78	17,167.59	($1,038.23)	3.50%	1,788.85	631,238.07
Aug-16	29.96	176,821.72	6,346	27.86	13,315.23	($1,266.14)	3.50%	1,841.11	645,128.27
Sep-16	29.84	175,594.35	6,314	27.81	12,833.09	($1,249.51)	3.50%	1,881.62	658,593.47
Oct-16	30.07	175,872.44	6,331	27.78	14,515.29	($1,376.96)	3.50%	1,920.90	673,652.70
Nov-16	42.10	221,020.94	6,456	34.23	50,765.04	($2,362.70)	3.50%	1,964.82	724,019.86
Dec-16	57.43	334,039.90	6,616	50.49	45,948.74	($8,241.33)	3.50%	2,111.72	763,838.99
Jan-17	72.07	450,720.45	6,689	67.38	31,351.77	($14,539.72)	3.50%	2,227.86	782,878.90
Feb-17	72.57	397,957.66	6,788	58.63	94,637.32	($11,246.19)	3.50%	2,283.40	868,553.43
Mar-17	62.05	338,780.93	6,766	50.07	81,059.52	($8,230.54)	3.50%	2,533.28	943,915.69
Apr-17	48.63	296,504.48	6,690	44.32	28,800.78	($5,664.40)	3.71%	2,918.27	969,970.34
May-17	33.03	195,899.47	6,588	29.74	21,702.17	($1,785.47)	3.71%	2,998.82	992,885.87
Total 12 Months Ended 5/31/2017		$3,121,498.67			$434,570.13	($58,217.37)		$26,172.87	
Total		$23,512,962.13			$1,284,639.09	($391,514.46)		$99,761.24	$992,885.87

Total C-1 Commercial and Industrial AUA Ending Balance	$	992,886
Total C-1 Base Revenue	$	3,121,499
2% Cap of Total C-1 Revenue	$	62,430
C-1 Revenue to be Recovered (Credited)	$	62,430
Recovery Period Total Volume in Therms		5,852,570
C-1 Commercial and Industrial AUA Rate	$	0.01070
Commercial Carry Forward	$	930,455.90
Total Residential and Commercial Carry Forward	$	1,540,142
Total Under- (Over) Recovery with interest	$	1,864,717

ATTACHMENT WHN-7

CGC Earnings Calculations 2011 - 2016

for 2011 I used the confid. excel file from jan 2012 that showed prior period results

2011	From Rate Case Order in 09-00183	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	12 mo. YTD	Over/(Under) Recovery
Average Rate Base		90,538,104	90,464,606	90,562,138	91,030,001	91,594,628	92,156,498	92,760,364	90,540,330	91,086,430	91,432,195	91,677,300	91,872,199	91,309,566	
Average 12 month-to-date rate base	$ 93,818,504														
monthly adjusted net operating income		1,414,613	1,284,959	773,798	528,289	287,452	179,083	200,207	532,672	181,024	752,895	946,497	772,738	**7,854,227**	1,115,548
12 month-to-date adjusted net operating income	$ 6,923,840														
monthly rate of return		18.75%	17.04%	10.25%	6.96%	3.77%	2.33%	2.59%	7.06%	2.38%	9.88%	12.39%	10.09%		
12 month-to-date rate of return	7.38%													8.602%	

begin of 09-00183

2012	From Rate Case Order in 09-00183	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	12 mo. YTD	Over/(Under) Recovery
Average Rate Base		$ 91,393,152	88,475,776	85,921,568	85,832,843	87,099,020	86,790,228	87,776,023	89,045,103	90,060,472	91,049,644	91,305,842	90,347,427	88,758,092	
Average 12 month-to-date rate base	$ 93,818,504	$ 91,740,071	91,591,363	91,240,043	91,230,395	91,267,165	90,557,479	90,418,381	90,185,876	89,805,650	89,519,864	89,099,823	88,407,565		
monthly adjusted net operating income		$ 1,387,152	1,320,658	890,527	382,076	232,924	175,771	91,164	155,391	147,778	317,310	968,169	1,025,841	**7,094,761**	544,381
12 month-to-date adjusted net operating income	$ 6,923,840	$ 7,826,863	7,711,764	7,799,215	7,742,642	7,727,930	7,713,545	7,699,756	7,326,149	7,538,595	7,275,131	7,368,400	7,154,170		
monthly rate of return		18.44%	17.91%	12.44%	5.34%	3.21%	2.43%	1.25%	2.09%	1.97%	4.18%	12.72%	13.63%		
12 month-to-date rate of return	7.38%	8.42%	8.42%	8.55%	8.49%	8.47%	8.52%	8.52%	8.12%	8.39%	8.13%	8.27%	8.09%	7.993%	

2013	From Rate Case Order in 09-00183	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	12 mo. YTD	Over/(Under) Recovery
Average Rate Base		$ 88,347,054	85,290,970	82,973,042	82,779,023	84,351,526	86,143,248	88,401,080	90,736,044	93,372,464	95,669,119	96,362,926	95,564,787	89,165,940	
Average 12 month-to-date rate base	$ 93,818,504	$ 88,014,111	87,605,436	87,365,980	87,356,786	87,370,379	87,211,910	87,619,542	87,912,170	88,219,925	88,700,582	89,109,229	89,408,406		
monthly adjusted net operating income		$ 1,543,395	1,243,605	878,699	477,022	303,603	196,844	102,502	134,852	164,267	397,030	994,998	1,132,593	**7,569,410**	988,931
12 month-to-date adjusted net operating income	$ 6,923,840	$ 7,369,975	7,287,312	7,190,107	7,316,093	7,377,333	7,370,610	7,547,128	7,521,518	7,524,784	7,581,216	7,598,663	7,642,112		
monthly rate of return		20.96%	17.50%	12.71%	6.92%	4.32%	2.74%	1.39%	1.78%	2.11%	4.98%	12.39%	14.22%		
12 month-to-date rate of return	7.38%	8.37%	8.32%	8.23%	8.37%	8.44%	8.45%	8.61%	8.56%	8.53%	8.55%	8.53%	8.55%	8.489%	

2014	From Rate Case Order in 09-00183	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	12 mo. YTD	Over/(Under) Recovery
Average Rate Base		$ 92,879,391	90,202,182	89,910,842	90,735,182	93,073,391	98,533,678	105,372,270	110,373,277	112,710,487	117,162,434	118,692,371	118,559,975	103,183,790	
Average 12 month-to-date rate base	$ 93,818,504	$ 89,525,187	89,792,177	90,264,095	90,974,309	91,834,817	93,097,614	94,690,319	96,489,317	96,810,040	100,221,278	101,942,153	104,062,352		
monthly adjusted net operating income		$ 1,454,386	1,251,303	897,801	680,877	317,239	340,375	212,468	182,920	259,301	438,809	961,895	1,240,960	**8,238,334**	623,432
12 month-to-date adjusted net operating income	$ 6,923,840	$ 7,583,901	7,580,515	7,591,859	7,741,375	7,748,414	7,882,786	8,013,173	8,059,147	8,137,011	8,195,336	8,158,128	8,266,557		
monthly rate of return		18.79%	16.65%	11.98%	9.00%	4.09%	4.15%	2.42%	1.99%	2.76%	4.49%	9.72%	12.56%		
12 month-to-date rate of return	7.38%	8.47%	8.44%	8.41%	8.51%	8.44%	8.47%	8.46%	8.35%	8.41%	8.18%	8.00%	7.94%	7.984%	

2015	From Rate Case Order in 09-00183	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	12 mo. YTD	Over/(Under) Recovery
Average Rate Base		$ 116,794,756	114,062,126	111,346,719	111,552,107	113,628,253	115,689,308	117,796,251	119,572,892	120,882,192	121,804,993	122,238,855	120,206,264	117,131,226	
Average 12 month-to-date rate base	$ 93,818,504	$ 105,584,430	107,221,976	108,787,527	110,479,495	112,207,982	113,955,851	115,155,057	115,724,025	116,376,086	116,832,516	117,033,892	116,778,799		
monthly adjusted net operating income		$ 1,452,212	1,398,596	1,005,356	571,959	283,506	118,101	190,984	270,876	164,609	388,805	963,259	993,610	**7,801,873**	(842,454)
12 month-to-date adjusted net operating income	$ 6,923,840	$ 8,258,352	8,430,385	8,498,121	8,389,604	8,355,918	8,146,944	8,126,970	8,212,673	8,130,578	8,080,115	8,080,538	7,208,230		
monthly rate of return		14.92%	14.71%	10.83%	6.15%	2.99%	1.23%	1.95%	2.72%	1.63%	3.83%	9.46%	11.34%		
12 month-to-date rate of return	7.38%	7.82%	7.86%	7.81%	7.59%	7.45%	7.15%	7.06%	7.10%	6.99%	6.92%	6.90%	6.83%	6.661%	

2016	From Rate Case Order in 09-00183	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	12 mo. YTD	Over/(Under) Recovery
Average Rate Base		$ 116,946,771	114,414,387	112,826,542	112,942,309	114,342,688	114,822,831	114,855,826	116,658,069	118,689,389	120,236,157	121,127,788	119,787,884	116,470,887	
Average 12 month-to-date rate base	$ 93,818,504	$ 116,622,673	116,403,021	116,420,387	116,704,543	116,966,383	117,153,113	117,131,976	117,146,703	117,054,368	116,964,112	116,894,804	116,483,867		
monthly adjusted net operating income		$ 1,619,472	1,182,858	902,348	585,115	205,142	105,443	187,178	165,380	255,343	465,155	633,391	1,115,480	**7,422,305**	(1,173,289)
12 month-to-date adjusted net operating income	$ 6,923,840	$ 8,136,628	7,916,851	7,808,972	7,823,928	7,737,018	7,725,834	7,724,715	7,622,023	7,700,082	7,777,183	7,447,518	7,422,213		
monthly rate of return		16.62%	12.41%	9.60%	6.22%	2.15%	1.10%	1.95%	1.70%	2.58%	4.64%	6.27%	11.17%		
12 month-to-date rate of return	7.38%	6.98%	6.80%	6.71%	6.70%	6.61%	6.59%	6.59%	6.51%	6.58%	6.65%	6.37%	6.37%	6.373%	

2017	From Rate Case Order in 09-00183	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	12 mo. YTD	Over/(Under) Recovery
Average Rate Base		$ 117,909,057	116,683,393	116,577,908	117,026,179									117,049,134	
Average 12 month-to-date rate base	$ 93,818,504	$ 116,411,742	116,468,988	116,731,329	116,987,150										
monthly adjusted net operating income		$ 1,447,211	1,201,015	847,691	490,063									**3,985,980**	
12 month-to-date adjusted net operating income	$ 6,923,840	$ 6,787,163	6,810,696	6,763,966	668,571										
monthly rate of return		14.73%	12.35%	8.73%	5.03%									3.405%	
12 month-to-date rate of return	7.38%	5.83%	5.85%	5.79%	5.70%										