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**BEFORE
THE TENNESSEE PUBLIC UTILITY COMMISSION**

PETITION OF CHATTANOOGA GAS)
COMPANY FOR A GENERAL RATE)
INCREASE, IMPLEMENTATION OF)
THE ENERGYSMART)
CONSERVATION PROGRAMS AND)
IMPLEMENTATION OF A REVENUE)
DECOUPLING MECHANISM)

Docket No. 09-00183

**DIRECT TESTIMONY
of
WILLIAM H. NOVAK**

**ON BEHALF OF
THE CONSUMER PROTECTION AND ADVOCATE DIVISION
OF THE
TENNESSEE ATTORNEY GENERAL'S OFFICE**

October 24, 2017

**BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE**

IN RE:

**PETITION OF CHATTANOOGA GAS
COMPANY FOR APPROVAL OF ITS
RATES AND CHARGES, MODIFICATION
OF ITS RATE DESIGN, AND REVISED
TARIFF**

DOCKET NO. 09-00183

AFFIDAVIT

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




WILLIAM H. NOVAK

Sworn to and subscribed before me this 23rd day of Oct., 2017.


NOTARY PUBLIC

My commission expires: May 6, 2019

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ATTACHMENTS

Attachment WHN-1	William H. Novak Vitae
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1 ***Q1. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND***
2 ***OCCUPATION FOR THE RECORD.***

3 A1. My name is William H. Novak. My business address is 19 Morning Arbor Place,
4 The Woodlands, TX, 77381. I am the President of WHN Consulting, a utility
5 consulting and expert witness services company.¹
6

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

9 A2. A detailed description of my educational and professional background is provided
10 in Attachment WHN-1 to my testimony. Briefly, I have both a Bachelor's degree
11 in Business Administration with a major in Accounting, and a Master's degree in
12 Business Administration from Middle Tennessee State University. I am a
13 Certified Management Accountant, and am also licensed to practice as a Certified
14 Public Accountant.
15

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

¹ State of Tennessee, Registered Accounting Firm ID 3682.

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

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

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

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

14 ***Q4. HAVE YOU PRESENTED TESTIMONY IN ANY PREVIOUS CASES***
15 ***CONCERNING CHATTANOOGA GAS COMPANY?***

16 A4. Yes. I presented testimony in Dockets U-85-7382, 88-01363, 90-08876, 91-
17 03765, 93-06946 and 02-00383 and concerning Chattanooga Gas Company
18 (CGC). In addition, I have either testified or indirectly advised the TPUC in a
19 number of gas utility cases regarding Weather Normalization Adjustment (WNA)
20 mechanisms which are the core subject of this current Docket.
21

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

1 A5. My testimony will support and address the Consumer Advocate's positions and
2 concerns with respect to CGC's proposal to terminate the Alignment & Usage
3 Adjustment (AUA). In addition, I will address CGC's request to establish or
4 reinstate a WNA mechanism for R-1 and C-1 customers. Further, I will address
5 CGC's request for recovery of the deferred AUA balance.
6

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

9 A6. I have reviewed the Commission's Order in this Docket that was filed on
10 November 8, 2010 (2010 Order) that established the AUA mechanism as well as
11 the subsequent Commission Order filed on November 6, 2013² (2013 Order) that
12 extended the AUA mechanism. I've also reviewed the testimony and exhibits of
13 all parties in this Docket that are related specifically to the AUA mechanism.
14

15 In addition, I've reviewed the Report prepared by the National Regulatory
16 Research Institute (NRRI)³ and the Report filed as Testimony by a TPUC Staff
17 member.⁴ These reports generally evaluate the energy efficiency and
18 conservation programs approved by the Commission in this Docket. Finally, I
19 have reviewed CGC's report on the trial AUA with recommendations (CGC
20 Report) filed in this Docket on September 26, 2017. The CGC Report requests

² Order Extending the Alignment and Usage Adjustment Mechanism, Convening a Contested Case Proceeding, and Appointing a Hearing Officer, filed in the current Docket and dated November 6, 2013.

³ 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, filed in this Docket on January 10, 2017 (NRRI Report).

⁴ Testimony of Jerry Kettles filed in this Docket on September 19, 2017 (TPUC Staff Report).

1 approval from the Commission to terminate the current AUA mechanism and
2 reinstate a WNA mechanism for R-1 and C-1 customers, as well as recover the
3 deferred AUA balance.
4

5 ***Q7. MR. NOVAK, PLEASE SUMMARIZE YOUR RECOMMENDATION TO***
6 ***THE COMMISSION IN REGARD TO CGC'S PETITION.***

7 A7. I recommend that the Commission deny CGC's request to either establish or
8 reinstate a WNA mechanism for R-1 and C-1 customers outside of a new rate
9 case. I also recommend that the Commission deny CGC's request for recovery of
10 the deferred AUA balance. In addition, I recommend that the Commission
11 conduct a financial audit of the AUA surcharges and refunds in a manner similar
12 to WNA audits that the Commission Staff already undertakes on a regular basis.
13 Further, to the extent that CGC continues to affirm its request to terminate the
14 AUA mechanism subject to these recommendations, then I would also
15 recommend that the AUA mechanism be terminated.
16

17 ***Q8. HOW IS YOUR TESTIMONY ORGANIZED?***

18 A8. I will begin by briefly discussing some background information concerning this
19 Docket. Next, I will discuss CGC's proposal to either establish or reinstate a
20 WNA mechanism for R-1 and C-1 customers once the AUA has terminated. I
21 will then address CGC's proposal to recover the cumulative deferred balance
22 from the existing AUA mechanism. Finally, I will address CGC's options with
23 respect to terminating the AUA mechanism.

1 I. BACKGROUND

2
3 ***Q9. MR. NOVAK, WOULD YOU PROVIDE SOME BACKGROUND ON THE***
4 ***AUA MECHANISM IN THIS DOCKET?***

5 A9. Yes. On November 8, 2010, in Docket No. 09-00183, the TPUC approved a rate
6 increase of approximately \$60,000 for CGC which was completely allocated to
7 the residential customer class.⁵ Along with this increase in rates, the Commission
8 also approved a series of conservation measures proposed by CGC including a
9 revenue decoupling mechanism known as the Alignment & Usage Adjustment
10 (AUA) for the R1 and C1 residential and commercial customer classes.⁶

11
12 According to the 2010 Order, the AUA was approved for a three-year
13 experimental period and was to take the place of the WNA (that existed prior to
14 the AUA) for the R1 and C1 customer classes. The AUA works by first
15 computing the actual monthly revenue per customer class and then comparing this
16 amount with the benchmark monthly revenue per customer class recognized in the
17 rate case. The difference between these two rates is multiplied by the actual
18 number of customers billed and then either surcharged or refunded (with interest)
19 to each customer class. In addition, the Commission placed a cap of 2% of
20 margin on annual increases to the AUA surcharge.⁷

⁵ 2010 Order at page 66 at paragraph 6.

⁶ 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.

⁷ 2010 Order at page 66 at paragraph 8.

1

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

6

7 The NRRI Report on CGC's conservation measures was presented to the
8 Commission on January 10, 2017. According to the NRRI Report, "...the
9 program intent might have been reasonable, but the plan itself turned out to be
10 shortsighted."⁸ The TPUC Staff Report, on September 19, 2017, essentially
11 reviewed and affirmed the results of the NRRI Report. The TPUC Report noted,
12 among other things, that there appeared to be insufficient customer data available
13 to properly evaluate the results from CGC's conservation measures.⁹ Further, the
14 reports generally observe that while the program may result in savings, that
15 savings may be difficult to achieve.¹⁰ As a result, in general terms, the
16 Commission's intent to address specific conservation measures for CGC's
17 customers fell short of their stated goals.

18

19 On September 26, 2017, CGC issued the CGC Report on the AUA mechanism.
20 In its report, CGC requests that the AUA mechanism now be discontinued and

⁸ 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.

⁹ TPUC Staff Report at pages 7-8.

¹⁰ TPUC Staff Report at pages 10-11 (referring to the relationship between the NRRI Report and TPUC Staff Report).

1 replaced with a WNA mechanism. CGC also requests that it now be allowed to
2 recover the current balance of approximately \$1.8 million in deferred AUA
3 surcharges.
4

1 II. WNA REINSTATEMENT

2
3 ***Q10. MR. NOVAK, PLEASE SUMMARIZE CGC'S PROPOSAL TO***
4 ***REINSTATE THE WNA MECHANISM AFTER THE AUA MECHANISM***
5 ***IS TERMINATED.***

6 A10. CGC is requesting that the Commission reinstate the WNA mechanism on a
7 going-forward basis once the AUA mechanism has been terminated.¹¹ With
8 respect to the mechanism, CGC requests to return to the WNA mechanism in
9 TPUC Docket No. 91-01712.¹²

10
11 ***Q11. DOES CGC OFFER ANY LEGAL OR REGULATORY BASIS FOR ITS***
12 ***REQUEST?***

13 A11. CGC offers no apparent regulatory or legal basis for reinstating a WNA in this
14 Docket. I will add that the existence of a previously approved, and terminated,
15 mechanism from a 1991 docket is not a basis for reinstating a WNA in this
16 Docket.

17
18 ***Q12. MR. NOVAK, IN YOUR OPINION, IS THERE ANY BASIS IN THIS***
19 ***DOCKET UPON WHICH THE TPUC COULD REINSTATE A WNA***
20 ***MECHANISM AFTER THE PRESENT AUA MECHANISM IS***
21 ***TERMINATED?***

¹¹ CGC Report at page 7 of 8.

¹² CGC Report at page 7 of 8.

1 A12. No. I have not found any authorizing language in the record for this Docket
2 indicating that the Commission authorized a WNA that could now be reinstated
3 by CGC. In fact, the 2013 Order specifically states that CGC's WNA "ceased to
4 operate . . . because the AUA mechanism takes into account all adjustments to
5 usage, including those related to weather."¹³ Further, the Commission found that
6 "[w]ithout a[n AUA] tariff in place, the Company would have no mechanism to
7 account for declining usage and the effect of weather on revenues."¹⁴ As a result,
8 the Commission recognized that the WNA was no longer available and had been
9 terminated. Applied to this current Docket, it appears that there is no authority by
10 which the proposed WNA could now be reinstated and any WNA authorized as a
11 result of CGC's request would essentially be a new WNA.

12
13 ***Q13. MR. NOVAK, YOU MENTIONED EARLIER THAT THE COMMISSION***
14 ***SPECIFICALLY APPROVED THE AUA MECHANISMS ONLY FOR***
15 ***CUSTOMERS RECEIVING GAS SERVICE ON THE R-1 AND C-1 RATE***
16 ***SCHEDULES. WAS THE AUA MECHANISM ALSO APPLIED TO***
17 ***OTHER RESIDENTIAL AND COMMERCIAL RATE SCHEDULES?***

18 A13. No. The AUA mechanism was only applied to residential and commercial
19 customers on CGC's R-1 and C-1 rate schedules. Residential and Commercial

¹³ 2013 Order at page 2 (referring to a motion by CGC to extend the AUA, in which CGC said that "[s]ince the AUA adjusts for all variance in usage, the Weather Normalization Adjustment . . . for these two Rate Schedules was discontinued").

¹⁴ 2013 Order at page 6. As I am not an attorney, I do not address whether there is any other legal basis upon which the deferred AUA balance could be recovered, though from a regulatory perspective, there would appear to be a retroactive ratemaking issue inherent in CGC's request.

1 customers on CGC's R-4 and C-2 rate schedules were not included in the AUA
2 mechanism.

3
4 ***Q14. DID THE EXISTING WNA MECHANISM CONTINUE TO APPLY TO***
5 ***RESIDENTIAL AND COMMERCIAL CUSTOMERS ON THE R-4 AND***
6 ***C-2 RATE SCHEDULES?***

7 A14. I have been unable to find anything in the record whether any WNA factors were
8 adopted by the Commission in Docket No. 09-00183 for CGC's R-4 and C-2 Rate
9 Schedules. The Commission Order does not mention any WNA factors being
10 adopted, and specifically states that the attrition period revenues were based on
11 the Consumer Advocate's billing determinants.¹⁵ Moreover, a review of the
12 testimony and workpapers of CPAD witness Dave Peters in this Docket indicates
13 that no weather normalization was undertaken. Nevertheless, the 2017 WNA
14 Audit Report of the Commission Staff in Docket 17-00062 indicates that the
15 WNA factors were taken from the last rate case in Docket No. 09-00183.¹⁶
16 Regardless of what WNA factors are actually being used by CGC for the R-4 and
17 C-2 rate schedules, it does not appear that there was a consensus or vetting of any
18 weather normalization methodology by the Commission in this Docket.

19

¹⁵ 2010 Order at page 15.

¹⁶ Docket 17-00062, Audit of Chattanooga Gas Company's Weather Normalization Adjustment for the Period November 1, 2016 to April 30, 2017, Notice of Filing by the Utilities Division of the TPUC, Exhibit A, Page 1, July 19, 2017.

1 ***Q15. WHY IS IT IMPORTANT FOR THE COMMISSION TO DETERMINE IF***
2 ***A WNA MECHANISM WAS SPECIFICALLY APPROVED FOR CGC'S***
3 ***R-4 AND C-2 RATE SCHEDULES?***

4 A15. Because CGC is now asking the Commission to adopt a WNA mechanism from
5 this docket for the R-1 and C-1 rates schedules after the AUA mechanism is
6 terminated. If the Commission never approved a WNA mechanism in this docket
7 for the R-4 and C-2 rate schedules, then there is no existing WNA mechanism in
8 place and CGC's request should be denied.

9
10 Further, on a more fundamental level, WNA mechanisms require the use of
11 statistics from linear regression equations for each customer class as well as
12 calculations for daily normal weather. None of these WNA components were
13 vetted by the parties in Docket 09-00183. As a result, it appears unlikely that the
14 Commission could have approved a WNA mechanism in this Docket for any of
15 CGC's rate schedules. Since the Commission did not approve a WNA
16 mechanism, CGC's request to reinstate a WNA mechanism should be denied.

17
18 Finally, changes to the calculation of normal weather since the last rate case as
19 well as changes in the wholesale price of natural gas and customer usage patterns
20 will likely lead to unpredictable results if a WNA is now adopted based upon data
21 from the 2009 rate case. As a result, it would be inappropriate to apply WNA
22 factors from a previous rate case to today's customer usage and CGC's request to
23 do so should be denied.

1

2 ***Q16. DOES THIS ALSO MEAN THAT THERE IS NO FUNDAMENTALLY***
3 ***SOUND BASIS UPON WHICH A WNA COULD BE ESTABLISHED IN***
4 ***THIS DOCKET FOR CGC'S R-4 AND C-2 RATE SCHEDULES?***

5 A16. Yes. Since there was no vetting or approval of WNA components and no specific
6 authorization by the Commission of any WNA mechanism in this Docket, then
7 there is no sound basis for currently establishing, applying and charging a WNA
8 mechanism to CGC's R-4 and C-2 rate schedules.¹⁷

9

10 ***Q17. WOULD THE SAME RATIONALE APPLY TO SHOW THAT THERE IS***
11 ***NO FUNDAMENTALLY SOUND BASIS UPON WHICH A WNA COULD***
12 ***BE ESTABLISHED IN THIS DOCKET FOR CGC'S R-1 AND C-1 RATE***
13 ***SCHEDULES?***

14 A17. Yes. To emphasize the point, since there was no vetting or approval of WNA
15 components and no specific authorization by the Commission of any WNA
16 mechanism in this Docket, then there is no sound basis for currently establishing,
17 applying, and charging a WNA mechanism to CGC's R-1 and C-1 rate schedules.

18

19 ***Q18. WHAT IS YOUR RECOMMENDATION ON THE REINSTATEMENT OR***
20 ***ESTABLISHMENT OF A WNA MECHANISM?***

¹⁷ At this point, I have not made a recommendation as to whether a refund would be appropriate in this context if CGC's apparent inadvertent continuation of the WNA with respect to CGC's R-4 and C-2 rate schedules resulted in Consumers being overcharged. In my view, this could be addressed in connection with a later aspect of this Docket, including the financial audit that I propose.

1 A18. As I previously noted, there was no vetting of the WNA factors by the CPAD
2 during CGC's last rate case in this Docket. This was likely because CGC had
3 proposed to eliminate the WNA mechanism altogether. This means that the
4 WNA factors that CGC now wants to reinstate for R-1 and C-1 customers were
5 not properly considered in the rate case. As a result, it becomes very difficult to
6 consider the impact of a new WNA mechanism without fully considering all other
7 aspects of CGC's rate of return.

8
9 Further, to my knowledge, the Commission has never implemented a WNA
10 outside of a rate case and certainly not a rate case that is over six years old.
11 Addressing a WNA for CGC at this point would be akin to adopting an alternative
12 rate mechanism on the same six-year old data. After a point, the data adopted in
13 the rate case becomes so stale that it would likely produce inappropriate results.

14
15 For all of the reasons that I describe, including the apparent lack of any relevant
16 Commission approval, I recommend that the Commission reject CGC's proposal
17 to reinstate a WNA on a going-forward basis.

18
19

1 **III. STATUS OF THE CUMULATIVE DEFERRED AUA BALANCE**

2

3 ***Q19. MR. NOVAK, PLEASE EXPLAIN HOW THE CUMULATIVE***

4 ***DEFERRED AUA BALANCE IS CALCULATED.***

5 A19. As mentioned above, the AUA is subject to a 2% margin cap on the annual

6 increases to the surcharge. This means that CGC cannot increase the AUA

7 surcharge by more than 2% of the existing base rate no matter what the actual

8 AUA deficiency might be. As a result, CGC has been required to defer (with

9 interest) the cumulative AUA balance on its books. As of May 31, 2017, the

10 cumulative deferred AUA balance was approximately \$1.9 million as shown

11 below on Table 1.¹⁸

TABLE 1 – DEFERRED AUA BALANCE¹⁹			
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

12

13

¹⁸ These deferred balances reported by CGC have not been audited.

¹⁹ AUA Balance Detail provided in a July 20, 2017 email from Archie Hickerson to Hal Novak included as Attachment WHN-3. Negative balances denote AUA funds owed from CGC to the customer. Positive balances denote AUA funds owed from the customer to CGC. Note also that these balances do not precisely match the values included in CGC's September 26, 2017 filing.

1 ***Q20. IN YOUR REVIEW OF THE DOCUMENTS YOU REFER TO ABOVE,***
2 ***DID YOU FIND ANY AUTHORIZATION BY WHICH CGC COULD***
3 ***RECOVER THE CUMULATIVE DEFERRED AUA BALANCE?***

4 A20. No.

5
6 ***Q21. MR. NOVAK, FOR CONTEXT AS TO CGC'S REGULATORY AND***
7 ***FINANCIAL CONDITION, WHAT WERE CGC'S EARNINGS DURING***
8 ***THIS SAME TIME PERIOD?***

9 A21. During this same time, CGC exceeded their authorized rate of return of 7.38% by
10 as much as \$3.3 million as shown below on Table 2. These overearnings were
11 only reduced in 2015 and 2016 due to a significant increase of approximately \$14
12 million in rate base.²⁰ Without this unexplained increase to their rate base, CGC
13 would have continued exceeding their authorized rate of return during 2015 and
14 2016.²¹

TABLE 2 – CGC EARNINGS ²²		
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

²⁰ This change represents an increase of approximately 14% to rate base.

²¹ 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.

²² Compiled from monthly financial reports filed with the TPUC and the CPAD and shown on Attachment WHN-2.

1 ***Q22. MR. NOVAK, WHAT IS YOUR RECOMMENDATION TO THE***
2 ***COMMISSION REGARDING CGC'S PROPOSAL TO RECOVER THE***
3 ***CUMULATIVE DEFERRED AUA BALANCE OF APPROXIMATELY***
4 ***\$1.9 MILLION?***

5 A22. I recommend that the Commission reject CGC's proposal to recover the
6 cumulative deferred AUA balance, since there does not appear to be any approved
7 or otherwise authorized basis upon which in could be recovered. My
8 recommendation also is supported by the significant overearnings that CGC has
9 captured and retained since its last rate case. Further, I recommend that the
10 Commission audit the surcharges and collections from the AUA mechanism.

11
12
13

1 IV. OPTIONS FOR AUA TERMINATION

2
3 ***Q23. MR. NOVAK, WHAT OPTIONS DOES CGC HAVE AT THIS POINT***
4 ***WITH RESPECT TO THE AUA MECHANISM?***

5 A23. CGC has essentially three options. One option would be to simply terminate the
6 AUA mechanism. Another option would be to file a general rate case and
7 terminate the AUA within that context, along with asking the Commission to
8 establish a new WNA based upon updated weather and customer usage patterns.
9 A third option would be for CGC to leave the existing AUA in place.

10
11 ***Q24. WOULD YOU COMMENT ON EACH OF THESE OPTIONS?***

12 A24. The first option – simply terminating the AUA – would result in CGC not having
13 a mechanism to account for the effect of weather on revenues and would also
14 mean that CGC would forfeit the outstanding cumulative deferred AUA balance.

15
16 The second option – filing a new rate case – would involve the time and resources
17 required by a general rate case that included a WNA, but would provide some
18 future protection against abnormal weather (assuming a WNA was approved by
19 the Commission).

20
21 The third option – leaving the current AUA in place – would mean that the
22 adjustment mechanism that has been found to come up short would remain in

1 place, though this option could result in the utilization of the outstanding
2 cumulative deferred AUA balance over time.
3

4 ***Q25. DO YOU HAVE A RECOMMENDATION WITH RESPECT TO THESE***
5 ***OPTIONS?***

6 A25. I recommend that the AUA mechanism continue to remain in effect. However, if
7 CGC still desires to terminate the AUA mechanism in spite of the disadvantages
8 that I describe above, then I would recommend that the Commission allow CGC
9 to terminate the AUA and forfeit the outstanding cumulative deferred AUA
10 balance, without establishing a WNA to provide protection against abnormal
11 weather.
12

13 ***Q26. DOES THIS COMPLETE YOUR TESTIMONY?***

14 A26. Yes, it does. However, I reserve the right to incorporate any new data that may
15 subsequently become available.

ATTACHMENT WHN-1

William H. Novak Vitae

William H. Novak

19 Morning Arbor Place
The Woodlands, TX 77381

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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	<u>S-32534</u>
	CenterPoint Energy/Louisiana PSC	2011	Audit of PGA Filings from 2002 - 2008 of CenterPoint Entex	<u>S-32537</u>
	Louisiana Electric Utilities/Louisiana PSC	2012	Technical Consultant for Impact of Net Meter Subsidy on other Electric Customers	<u>R-31417</u>
Tennessee	Aqua Utilities/Aqua Utilities	2006	Presentation of Rate Case on behalf of Aqua Utilities	<u>06-00187</u>
	Atmos Energy Corporation/Atmos Intervention Group	2007	Rate design for Industrial Intervenor Group	<u>07-00105</u>
	Bristol TN Essential Services/BTES	2009	Audit of Cost Allocation Manual	<u>05-00251</u>
	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	<u>11-00144</u>
	Tennessee-American Water Company/Tennessee AG	2012	Rate Case Audit - Revenues, Rate Base, Class Cost of Service Study and Rate Design	<u>12-00049</u>
	Tennessee-American Water Company/Tennessee AG	2013-2017	Alternative Regulation - Audit of Budget & True-up Filings, Rate Design	<u>16-00126</u>
	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	<u>14-00086</u>
	Piedmont Natural Gas Company/Tennessee AG	2014	Audit of Accumulated Deferred Federal Income Tax	<u>14-00017</u>
	Atmos Energy Corporation/Tennessee AG	2014	Rate Case Audit - Revenues, O&M Expenses, Rate Base and Rate Design	<u>14-00146</u>
	Atmos Energy Corporation/Tennessee AG	2015-2017	Alternative Regulation - Audit of Budget & True-up Filings, Rate Design	<u>16-00105</u>
	B&W Gas Company/B&W	2015	Presentation of Rate Case on behalf of B&W Gas Company	<u>15-00042</u>
	AEP & Kingsport Power/Tennessee AG	2015	Audit of Storm Costs and Rate Recovery	<u>15-00024</u>
Alabama	AEP & Kingsport Power/Tennessee AG	2016	Rate Case Audit - Revenue, Rate Base, Class Cost of Service Study & Rate Design	<u>15-00001</u>
	Jefferson County (Birmingham) Wastewater/Alabama AG	2013	Bankruptcy Filing - Allowable Costs and Rate Design	2009-2318
	Peoples & North Shore Gas Cos./Illinois Commerce Comm.	2007	Management Audit of Gas Purchasing Practices	06-0556
	Southwestern Public Service Co./New Mexico PRC	2010	Financial Audit of Fuel Costs for 2009 and 2010	09-00351-UT
	National Grid/New York PSC	2011	Audit of Affiliate Relationships and Transactions	10-M-0451
	Ohio-American Water Company/Ohio Consumers' Counsel	2010	Rate Case Audit - Class Cost of Service and Rate Design	<u>09-0391-WS-AIR</u>
	Vectren Energy Delivery of Ohio/Ohio Consumers' Counsel	2008	Rate Case Audit - Class Cost of Service and Rate Design	<u>07-1080-GA-AIR</u>
	Duke Energy-Ohio/Public Utilities Commission of Ohio	2009	Focused Management Audit of Fuel & Purchased Power (FPP Riders)	<u>07-0723-EL-JNC</u>
	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
	Aqua Utilities/PSS Legal Fund	2011	Rate Case Audit - Class Cost of Service and Rate Design	<u>W-216 Sub-319</u>
	Washington Gas Light Co./Public Service Comm of DC	2011	Audit of Tariff Rider for Infrastructure Replacement Costs	1027
	National Association of Regulatory Utility Commissioners	2015	Presentation of Regulatory Issues with Net Metering Customers on Rates of Electric Utilities	
	NARUC			

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

ATTACHMENT WHN-2
CGC Earnings Calculations
2011 - 2016

for 2011 i
used the
confid
excel file
from Jan
2012 rate
was used
prior
period
results

2011

Average Rate Base	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	Recovery
Average 12 month-to-date rate base	\$ 93,818,504	\$ 90,538,104	\$ 90,464,606	\$ 90,362,138	\$ 91,030,001	\$ 91,594,628	\$ 92,156,498	\$ 92,760,364	\$ 93,400,330	\$ 91,086,430	\$ 91,432,195	\$ 91,671,300	\$ 91,872,199	\$ 91,309,566	Recovery
monthly adjusted net operating income	\$ 6,923,840	\$ 1,414,613	\$ 1,284,939	\$ 773,798	\$ 528,289	\$ 287,452	\$ 179,083	\$ 200,207	\$ 532,672	\$ 181,024	\$ 752,895	\$ 946,497	\$ 772,738	\$ 7,854,227	Recovery
12 month-to-date adjusted net operating income	\$ 7,388	\$ 18,758	\$ 17,044	\$ 10,258	\$ 6,968	\$ 3,778	\$ 2,338	\$ 2,598	\$ 7,068	\$ 2,388	\$ 9,888	\$ 12,398	\$ 10,098	\$ 8,6028	Recovery
12 month-to-date rate of return															Recovery

2012

Average Rate Base	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	Recovery
Average 12 month-to-date rate base	\$ 93,818,504	\$ 91,393,152	\$ 88,472,776	\$ 85,921,568	\$ 85,832,843	\$ 87,099,020	\$ 86,790,228	\$ 87,776,023	\$ 89,045,103	\$ 90,060,472	\$ 91,049,644	\$ 91,205,842	\$ 90,347,427	\$ 88,758,092	Recovery
monthly adjusted net operating income	\$ 6,923,840	\$ 1,387,152	\$ 1,320,658	\$ 890,527	\$ 382,076	\$ 232,924	\$ 175,771	\$ 91,164	\$ 153,931	\$ 147,778	\$ 317,310	\$ 948,169	\$ 1,025,841	\$ 7,094,761	Recovery
12 month-to-date adjusted net operating income	\$ 7,388	\$ 18,448	\$ 17,917	\$ 12,448	\$ 5,348	\$ 3,218	\$ 2,438	\$ 1,258	\$ 2,098	\$ 1,978	\$ 4,188	\$ 12,728	\$ 13,638	\$ 7,9938	Recovery
12 month-to-date rate of return		\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	\$ 8,428	Recovery

2013

Average Rate Base	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	Recovery
Average 12 month-to-date rate base	\$ 93,818,504	\$ 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	\$ 95,364,787	\$ 91,163,340	Recovery
monthly adjusted net operating income	\$ 6,923,840	\$ 1,543,395	\$ 1,243,605	\$ 878,699	\$ 477,022	\$ 303,603	\$ 196,844	\$ 102,502	\$ 134,552	\$ 164,267	\$ 397,030	\$ 994,998	\$ 1,132,593	\$ 7,469,410	Recovery
12 month-to-date adjusted net operating income	\$ 7,388	\$ 20,968	\$ 17,508	\$ 12,718	\$ 6,928	\$ 4,328	\$ 2,748	\$ 1,398	\$ 1,788	\$ 2,178	\$ 4,988	\$ 12,398	\$ 14,228	\$ 8,4898	Recovery
12 month-to-date rate of return		\$ 8,378	\$ 8,328	\$ 8,218	\$ 8,378	\$ 8,448	\$ 8,458	\$ 8,618	\$ 8,468	\$ 8,538	\$ 8,538	\$ 8,538	\$ 8,538	\$ 8,538	Recovery

2014

Average Rate Base	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	Recovery
Average 12 month-to-date rate base	\$ 93,818,504	\$ 92,879,391	\$ 90,202,182	\$ 89,910,842	\$ 90,735,182	\$ 93,073,391	\$ 98,533,678	\$ 103,372,270	\$ 110,373,277	\$ 112,710,487	\$ 117,162,434	\$ 118,692,371	\$ 118,559,975	\$ 103,181,790	Recovery
monthly adjusted net operating income	\$ 6,923,840	\$ 1,454,386	\$ 1,251,303	\$ 897,801	\$ 680,877	\$ 317,239	\$ 340,375	\$ 212,468	\$ 182,520	\$ 259,301	\$ 438,809	\$ 961,895	\$ 1,240,960	\$ 8,238,334	Recovery
12 month-to-date adjusted net operating income	\$ 7,388	\$ 18,798	\$ 16,658	\$ 11,988	\$ 9,008	\$ 4,098	\$ 4,158	\$ 2,428	\$ 1,998	\$ 2,768	\$ 4,898	\$ 9,728	\$ 12,568	\$ 7,9848	Recovery
12 month-to-date rate of return		\$ 8,478	\$ 8,448	\$ 8,418	\$ 8,518	\$ 8,448	\$ 8,478	\$ 8,468	\$ 8,358	\$ 8,418	\$ 8,188	\$ 8,008	\$ 7,948	\$ 7,948	Recovery

2015

Average Rate Base	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	Recovery
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	\$ 115,732,892	\$ 116,376,086	\$ 116,832,516	\$ 117,033,892	\$ 116,778,799	\$ 117,131,226	Recovery
monthly adjusted net operating income	\$ 6,923,840	\$ 8,238,332	\$ 8,430,596	\$ 8,498,121	\$ 8,389,604	\$ 8,355,918	\$ 8,146,944	\$ 8,126,970	\$ 8,212,673	\$ 8,130,378	\$ 8,080,115	\$ 8,080,538	\$ 7,208,230	\$ 7,801,873	Recovery
12 month-to-date adjusted net operating income	\$ 7,388	\$ 14,928	\$ 14,718	\$ 10,838	\$ 6,158	\$ 2,998	\$ 1,238	\$ 1,558	\$ 2,728	\$ 6,998	\$ 6,928	\$ 6,908	\$ 6,838	\$ 6,6618	Recovery
12 month-to-date rate of return		\$ 7,828	\$ 7,868	\$ 7,818	\$ 7,598	\$ 7,458	\$ 7,158	\$ 7,068	\$ 7,108	\$ 6,998	\$ 6,928	\$ 6,908	\$ 6,838	\$ 6,6618	Recovery

2016

Average Rate Base	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	Recovery
Average 12 month-to-date rate base	\$ 93,818,504	\$ 116,946,771	\$ 114,413,387	\$ 112,826,542	\$ 112,942,309	\$ 114,422,688	\$ 114,822,831	\$ 114,855,826	\$ 116,638,069	\$ 118,689,389	\$ 120,236,157	\$ 121,127,788	\$ 119,787,884	\$ 116,470,887	Recovery
monthly adjusted net operating income	\$ 6,923,840	\$ 8,116,628	\$ 7,918,851	\$ 7,868,972	\$ 7,823,928	\$ 7,737,018	\$ 7,725,834	\$ 7,724,715	\$ 7,622,023	\$ 7,700,982	\$ 7,777,183	\$ 7,447,518	\$ 7,422,213	\$ 7,422,213	Recovery
12 month-to-date adjusted net operating income	\$ 7,388	\$ 16,628	\$ 12,418	\$ 9,698	\$ 6,228	\$ 2,158	\$ 1,108	\$ 1,958	\$ 1,708	\$ 5,898	\$ 6,658	\$ 6,378	\$ 6,278	\$ 6,278	Recovery
12 month-to-date rate of return		\$ 6,988	\$ 6,808	\$ 6,718	\$ 6,708	\$ 6,618	\$ 6,598	\$ 6,598	\$ 6,518	\$ 6,378	\$ 6,658	\$ 6,378	\$ 6,278	\$ 6,278	Recovery

2017

Average Rate Base	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	Recovery
Average 12 month-to-date rate base	\$ 93,818,504	\$ 117,949,057	\$ 116,683,393	\$ 116,577,908	\$ 117,026,179	\$ 116,887,150	\$ 116,887,150	\$ 117,131,976	\$ 117,146,703	\$ 117,034,568	\$ 116,964,112	\$ 116,894,804	\$ 116,483,867	\$ 116,470,887	Recovery
monthly adjusted net operating income	\$ 6,923,840	\$ 1,447,211	\$ 1,201,015	\$ 681,016	\$ 487,601	\$ 290,063	\$ 168,571	\$ 105,443	\$ 165,380	\$ 253,443	\$ 465,155	\$ 633,391	\$ 1,115,480	\$ 7,422,213	Recovery
12 month-to-date adjusted net operating income	\$ 7,388	\$ 14,138	\$ 12,358	\$ 8,798	\$ 5,038	\$ 2,578	\$ 1,308	\$ 1,108	\$ 1,708	\$ 5,898	\$ 6,658	\$ 6,378	\$ 6,278	\$ 6,278	Recovery
12 month-to-date rate of return		\$ 5,838	\$ 5,858	\$ 5,798	\$ 5,708	\$ 5,618	\$ 5,598	\$ 5,598	\$ 5,518	\$ 5,378	\$ 5,658	\$ 5,378	\$ 5,278	\$ 5,278	Recovery

ATTACHMENT WHN-3

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@lunalaunashville.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@lunalaawnashville.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@lunalaawnashville.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	(13,459.27)	\$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		(\$5,689.41)	

Chattanooga Gas Company

Calculation of AUA Adjustment Recovery Rates

R-1 Residential AUA Recovery Rate Calculation
Bench Mark

Month	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	(\$10,066.43)	\$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	

\$12,103.93

R-1 Residential AUA Recovery Rate Calculation
Bench Mark

Month	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			(\$570,196.01)	(\$306,013.77)		(\$706.48)	

\$11,397.46

(\$258,861.37)

Calculation of AUA Adjustment Recovery Rates

R-1 Residential AUA Recovery Rate Calculation									
Bench Mark									
Month	Customer	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	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%	(\$544,527.31)
Jul-14		14.24	786,341.41	54,056	14.55	(16,681.27)	(\$5,076.01)	3.25%	(568,030.19)
Aug-14		14.28	780,351.25	53,843	14.49	(11,284.76)	\$3,837.92	3.25%	(577,286.27)
Sep-14		14.23	776,731.49	53,817	14.43	(10,939.55)	\$4,505.18	3.25%	(585,304.96)
Oct-14		15.18	799,452.24	54,239	14.74	23,678.82	\$5,878.19	3.25%	(557,603.98)
Nov-14		21.87	1,176,841.79	55,096	21.36	28,344.64	\$19,823.77	3.25%	(611,216.58)
Dec-14		27.30	1,549,582.30	55,619	27.86	(31,161.35)	\$39,680.18	3.25%	(604,353.13)
Jan-15		31.39	1,741,131.42	55,840	31.18	11,937.46	\$50,978.16	3.25%	(543,074.30)
Feb-15		30.46	1,821,281.25	55,985	32.53	(115,871.78)	\$55,631.90	3.25%	(604,785.00)
Mar-15		26.75	1,805,493.77	56,041	32.22	(306,593.16)	\$54,489.66	3.25%	(656,526.47)
Apr-15		22.28	1,189,019.32	55,671	21.36	51,386.23	\$17,411.78	3.25%	(792,053.63)
May-15		15.82	948,103.94	55,260	17.16	(73,752.59)	\$8,379.62	3.25%	(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		-\$ (S10,240.12)

R-1 Residential AUA Recovery Rate Calculation									
Bench Mark									
Revenue per Customer		Adjusted Actual		Number of Billing Units		Actual Base Revenue per Customer		AUA Monthly Base Revenue	
								Deficiency/(Surplus)	
								Credits/(Collections)	
								Annual Interest Rate	
								Interest	
								Balance	
Month									
Jun-15	\$14.48	\$803,898.73	55,000	\$14.62		(\$7,493.23)	\$5,204.48	3.25%	(\$864,188.50)
Jul-15	14.24	793,203.51	54,790	14.48		(13,092.53)	\$4,516.92	3.25%	(875,104.63)
Aug-15	14.28	783,754.50	54,629	14.35		(3,451.16)	\$4,309.22	3.25%	(876,626.66)
Sep-15	14.23	791,704.69	54,644	14.49		(13,891.07)	\$4,771.99	3.25%	(888,119.93)
Oct-15	15.18	814,502.61	54,928	14.83		19,084.72	\$6,272.26	3.25%	(865,168.28)
Nov-15	21.87	1,075,378.76	55,524	19.37		139,189.87	\$12,589.22	3.25%	(715,752.35)
Dec-15	27.30	1,324,077.72	56,045	23.63		205,973.20	\$26,408.07	3.25%	(485,309.58)
Jan-16	31.39	1,546,435.67	56,351	27.44		222,675.80	\$39,852.64	3.25%	(224,095.52)
Feb-16	30.46	1,805,790.79	56,569	31.92		(82,591.57)	\$55,762.19	3.25%	(251,531.82)
Mar-16	26.75	1,494,855.34	56,536	26.44		17,284.78	\$36,059.68	3.25%	(198,868.59)
Apr-16	22.28	1,167,725.72	56,318	20.73		87,095.64	\$16,145.81	3.46%	(96,200.55)
May-16	15.82	887,034.96	56,030	15.83		(500.29)	\$8,806.22	3.46%	(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						(\$123,180.23)	\$74,801.45	(\$88,171.99)	

Chattanooga Gas Company

Calculation of AUA Adjustment Recovery Rates

R-1 Residential AUA Recovery Rate Calculation

Bench Mark		AUA Monthly Base				Annual		AUA End of	
Revenue per Customer		Actual Base Revenue per Customer		Monthly AUA		Interest		Month Account	
Month	Adjusted Actual Base Revenue	Number of Billing Units	Revenue	Credits/(Collections)	Rate	Interest	Balance		
Jun-16	\$14.48	55,708	\$820,874.38	\$14.74	\$5,746.65	3.46%	(\$254.23)	(\$95,896.54)	
Jul-16	14.24	55,514	798,798.86	14.39	\$4,574.28	3.50%	(282.61)	(100,984.30)	
Aug-16	14.28	55,375	793,315.06	14.33	(\$5,153.65)	3.50%	(294.54)	(108,798.73)	
Sep-16	14.23	55,266	793,626.44	14.36	(\$5,354.22)	3.50%	(317.33)	(121,429.43)	
Oct-16	15.18	55,440	803,887.73	14.50	37,469.71	3.50%	(354.17)	(\$0,406.88)	
Nov-16	21.87	56,039	1,050,576.39	18.75	175,237.51	3.50%	(283.69)	71,923.97	
Dec-16	27.30	56,786	1,445,793.58	25.46	104,486.93	3.50%	209.78	136,811.69	
Jan-17	31.39	57,087	1,646,222.04	28.84	145,995.78	3.50%	399.03	311,807.11	
Feb-17	30.46	57,148	1,466,701.09	25.66	274,135.57	3.50%	909.44	613,314.31	
Mar-17	26.75	57,166	1,388,251.25	24.28	140,739.17	3.50%	1,788.83	778,465.13	
Apr-17	22.28	56,994	1,218,247.59	21.38	51,635.72	3.71%	2,406.75	846,810.40	
May-17	15.82	56,706	880,975.86	15.54	16,254.82	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				
					Total R-1 Base Revenue				
					2% Cap of Total R-1 Revenue				
					R-1 Revenue to be Recovered (Credited)				
					Recovery Period Total Volume in Terms				
					R-1 Residential AUA Rate				
					Residual Carry Forward				
								\$	871,831
								\$	13,107,270
								\$	262,145
								\$	262,145
								\$	28,181,508
								\$	0.00930
								\$	609,686

Chattanooga Gas Company

Calculation of AUA Adjustment Recovery Rates

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Month	Bench Mark		Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base		Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
	Revenue per Customer	Revenue				Revenue	Deficiency/(Surplus)				
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		6,448	\$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		Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base		Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
	Revenue per Customer	Revenue				Revenue	Deficiency/(Surplus)				
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		Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base		Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
	Revenue per Customer	Revenue				Deficiency/(Surplus)	Revenue				
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					\$157,169.70	(\$78,924.72)		\$19,647.79			

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Month	Bench Mark		Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base Revenue		Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
	Revenue per Customer	Revenue per Customer				Deficiency/(Surplus)	Revenue				
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		Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base		Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
	Revenue per Customer	Revenue				Deficiency/(Surplus)	Revenue				
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	(\$1,252.36)	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											

C-1 Commercial and Industrial AUA Recovery Rate Calculation										
Bench Mark										
Month	Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base		Monthly AUA Credits/(Collections)	Annual Interest Rate	Interest	AUA End of Month Account Balance
					Deficiency/(Surplus)	Revenue				
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	(\$333,297.08)		\$73,588.37	\$590,360.24	

Chattanooga Gas Company

Calculation of AUA Adjustm

C-1 Commercial and Industrial AUA Recovery Rate Calculation

Bench Mark									
Month	Revenue per Customer	Adjusted Actual Base Revenue	Number of Billing Units	Actual Base Revenue per Customer	AUA Monthly Base		Monthly AUA Credits/(Collections)	Annual Interest Rate	AUA End of Month Account Balance
					Deficiency/(Surplus)	Revenue			
Jun-16	\$31.73	\$181,204.48	6,419	\$28.23	\$22,473.60	(\$1,215.18)	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	(\$1,256.14)	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									
Total C-1 Base Revenue									
2% Cap of Total C-1 Revenue									
C-1 Revenue to be Recovered (Credited)									
Recovery Period Total Volume in Terms									
C-1 Commercial and Industrial AUA Rate									
Commercial Carry Forward									
Commercial Carry Forward									
Total Residential and Commercial Carry Forward									
Total Under- (Over) Recovery with interest									