BEFORE THE TENNESSEE PUBLIC UTILITY COMMISSION
NASHVILLE, TENNESSEE

February 15, 2018

IN RE:	)	
	)	
CHATTANOOGA GAS COMPANY	)	
PETITION FOR APPROVAL OF AN	)	
ADJUSTMENT IN RATES AND	)	**Docket No.**
TARIFF; THE TERMINATION OF	)	**18-** 00017
THE AUA MECHANISM AND THE	)	
RELATED TARIFF CHANGES AND	)	
REVENUE DEFICIENCY	)	
RECOVERY; AND AN ANNUAL	)	
RATE REVIEW MECHANISM	)	

DIRECT TESTIMONY OF

RACHEL D. JOHNSON

ON BEHALF OF

CHATTANOOGA GAS COMPANY

Q. Please state your name, position and address.

A. Rachel Johnson, Director, Regulatory Accounting and Revenue Recovery Mechanisms, Southern Company Gas ("SCG"). My business address is Ten Peachtree Place, Location 1686, Atlanta, Georgia 30309.

Q. Please describe your professional background and education.

A. I received a Bachelor of Science in Accounting from Nova Southeastern University in 1992 and a Master of Taxation from University of Denver in 1994. Upon graduation, I held several tax positions in the state of Colorado. In 2003, I moved to the state of Georgia and continued to work in the tax field. In 2008, I was hired as the Income Tax Manager for AGL Resources and was promoted to the Tax Director in 2012. In the tax roles, my responsibilities included: (1) tax provisions, (2) separate and consolidated tax returns, (3) international and US taxation, (4) local and federal audits, and (5) supervision of the income tax department. In 2016, I transferred into the Regulatory Department. In this position, I am responsible for the review of various regulatory filings, Sarbanes-Oxley controls, preparation, review, and management of rate case documentation for various jurisdictions.

Q. Have you previously submitted testimony before the Tennessee Regulatory Authority or any other regulatory commission?

A. No. I have not submitted testimony to any regulatory commission.

Q. What is the purpose of your testimony?

A. I will present various financial and accounting data in support of Chattanooga Gas Company's ("CGC" or the "Company") proposed rate increase of $7.0 million in this proceeding, including (A) the proposed revenue adjustment required, (B) CGC's cost of service, (C) the determination of rate base, and (D) the capital structure and cost of debt financing.

Q. Please explain the historic test period and the attrition period used in preparation of the Company's case?

A. The Company's historic test period is the twelve months ended June 30, 2017. This period represented the most recent time period for which public financial data was available when the Company began preparing its case. The attrition period for which the Company's estimated revenue requirement is based on is the 12 months ending June 30, 2019, which represents forecast amounts for the twelve months succeeding July 1, 2018. New rates are expected to be implemented September 1, 2018. Additionally, please note that due to the tax legislation passed December 22, 2017, filing guideline schedules and responses have been updated through December 31, 2017, where applicable.

Q. Please identify the Minimum Filing Guidelines ("MFG") Schedules that you will be sponsoring.

A. In preparing the rate case filing, we utilized the minimum filing guidelines ("MFGs") that are available on the TPUC website. While the Commission has not formally adopted minimum filing requirements, CGC has utilized these MFGs in preparation of the case as the Company did in its last rate case in 2009-2010, Docket No. 09-00183.

The specific MFGs that I will be supporting are the following with exceptions noted:

- General schedules #14-28.
- Expense schedules #42-59 (except for #55 which relates to the cost of service study and supported by witness Daniel Yardley).
- Tax schedules #60-63.
- Rate base schedules #64-71 and are outlined in more detail in this document.
- Working capital schedules #72-74 (except for #72 which relates to the lead lag study and supported by witness Michael Adams).
- Merchandise & Jobbing and other non-regulated operations schedules #75-78.
- Cost of capital schedules #79-99.

Q. Are you sponsoring exhibits in connection with your testimony?

A. Yes. I am sponsoring the following exhibits in support of CGC's base revenue requirement for the twelve month attrition period ending June 30, 2019:

- Exhibit RDJ-1 – CGC's Statement of Income before and after the proposed rate adjustment and calculations of the proposed base revenue adjustment, base revenue conversion factor and Tennessee excise and federal income taxes. Please refer to MFG 25 as it will provide the support for the operating income calculation.
- Exhibit RDJ-2 – The elements of estimated average rate base, working capital requirement, and lead lag requirement after revenue adjustment as of June 30, 2019. Please refer to MFG 69 for support of these components.

- Exhibit RDJ-3 – A summary of the Company's estimated cost of capital as of June 30, 2019. Please refer to MFG 81 for the calculation of the cost of capital.

Q. Were these exhibits and related schedules prepared by you or under your direction and supervision?

A. Yes.

Q. Has the Company incorporated the impacts of the newly adopted Tax Cuts and Jobs Act ("the Act")?

A. Yes. The Company has incorporated all known and measurable impacts that the Act will have on the Company's financial condition. These impacts include the following:

- Federal income tax rate of 21%.
- Establishment of a regulatory liability for the recalculation of accumulated deferred income taxes at the federal tax rate of 21%. This is also referred to as excess deferred income taxes ("EDIT") and included on Exhibit RDJ 2-1, line 7.
- Amortization of protected EDIT and basis adjustments to property using the average rate adjustment mechanism ("ARAM") and unprotected EDIT using a five year straight line method included in MFG 61-2, line 27 for federal and state purposes.
- Elimination of bonus depreciation in 2018 with the exception of property acquired prior to September 30, 2017, and placed in service in 2018.

- Incorporation of a higher equity ratio at Southern Company Gas to mitigate the effects of reduced cash flows due to the elimination of bonus depreciation and flow back of EDIT to customers, which in turn has an adverse impact on Southern Company Gas' credit metrics.

I. CALCULATION OF REVENUE REQUIREMENT

Q. Please summarize the information contained in Exhibit RDJ-1, supporting the Company's calculated base revenue requirement?

A. Schedule 1 reflects the attrition period base revenue deficiency and proposed rate adjustment necessary to allow the Company the opportunity to earn a fair and reasonable return on its investment. Column 1 provides an income statement for the attrition period per books; Column 2 provides the Company's proposed rate adjustment; and Column 3 provides an income statement for the attrition period after the Company's proposed rate adjustment. Additionally, Line 15 of Schedule 1 includes the calculated rate of return of 4.61% before the proposed rate adjustment. Schedule 2 of Exhibit RDJ-1 provides the calculation of the proposed base revenue adjustment in the amount of $7.0 required for the Company's proposed rate of return of 7.83%. This calculation is based on the Company's anticipated gross revenue conversion factor, as calculated on Schedule 2 of Exhibit RDJ-1. Schedule 3 of the Exhibit provides the calculation of the Tennessee excise and federal income taxes before and after the proposed rate adjustment.

Q. Please summarize the primary components of the proposed revenue adjustment?

A. The primary components of base rates are detailed in the RDJ exhibits and summarized below:

- Increase in operating revenue ($3 million)
- Increase in cost of capital $1 million
- Increase in rate base $6 million
- Increase in cost of service $5 million
- Decrease in income tax ($2 million)

(a). Income Statement.

Q. Please explain in detail how you developed the forecasted operating income for the attrition period contained in Schedule 1 of Exhibit RDJ-1, column 1.

A. Revenues

The first component of the forecasted operating income is Operating Revenues. The forecast of Operating Revenues, Gas Cost and Other Revenues for the attrition period is provided in the direct testimony of Heath Brooks. Allowance for Funds Used during Construction ("AFUDC") was forecast by multiplying the forecasted balance of Construction Work in Progress ("CWIP") for the attrition period by the proposed weighted average cost of capital ("WACC") for the attrition period. The estimated balance of CWIP is based on the 13 month average CWIP for the attrition year.

(b). Operation and Maintenance Expenses.

Q. How did you forecast operations and maintenance expense for the attrition period?

A. The Company based its attrition period expense forecast for July 1, 2018-December 31, 2018 on the Company's annual 2018 budget, please refer to MFG 68 for a description of the budget process. The Company uses a zero based budget approach and considers this to be the best estimate of expenses for the first half of the attrition period. The 2019 portion for the attrition period expenses is based on known changes or applied growth rate deemed appropriate for that expense category. The forecasts of some of the major expense components are based on specific expense forecasts while others are based upon a general expected percentage increase.

(c). O&M Expense Specifically Forecast.

Payroll Expense

Q. Please identify and explain the forecast for payroll expense.

A. The payroll forecast is comprised of two components – fixed compensation and variable compensation. Fixed compensation includes base pay and after normal hours pay (overtime, beeper pay, etc.); and variable compensation primarily includes the Company's Pay for Performance Plan ("PPP"), Long Term Incentive Plan ("LTI") compensation plans, and service awards.

Q. How did you determine the forecast for fixed compensation?

A. Fixed compensation was forecast based on the 2018 Budget amount multiplied by the average annual merit increase of 3%. These amounts incorporate estimate increases in costs associated with the workforce initiatives discussed in the testimony of Wendell Dallas.

Q. How did the Company forecast variable compensation?

A. The estimated attrition period cost for variable compensation was determined using the 2018 Budget amount multiplied by 3% which is the average merit increase. The allocation between O&M and capital is based on the payroll capitalization percentages calculated for the 2018 budget.

(d). Bad Debt Expense.

Q. Please explain how you estimated bad debt expense.

A. Bad debt expense was estimated based on CGC's actual write-off experience for the 24 months ended December 2017. The actual write-off percentage includes only the non-gas portion of customers' bills since the gas portion is recovered through the Company's purchased gas adjustment. The percentage was then applied to the estimated margin, excluding revenues for recovery of damages to the distribution system.

(e). Employee Benefits Expense.

Q. What are the components of employee benefits expense included in the attrition period?

A. Employee benefits expense in the attrition period includes costs associated with 401(k) benefits, group health benefits, pension expense, post-retirement benefits other than pensions.

Q. How did the Company estimate 401(k) benefits costs?

A. 401K benefits were forecast based on the 2018 Budget amount multiplied by the average annual merit increase of 3%.

Q. Please describe how group health and other benefits were calculated.

A. Group health benefits were based on the recent collection of data for medical, prescription drug, and behavioral health claims. Historical trends, estimated changes to enrollment, plan design changes, and administrative costs were considered when developing future estimates.

Q. How did you estimate pension and post-retirement expenses for the attrition period?

A. The Company's pension and post retirement plans are based on an estimate provided by Mercer, the Company's actuary. The total expense amount was estimated in accordance with Statement of Financial Accounting Standards for Postretirement Benefits Other Than Pensions.

(f). Expenses Based on the General Growth Percentage.

Q. Please identify and explain the forecast of each element of O&M based on the general growth percentage.

A. The general growth percentage is the estimated change in the consumer price index from the end of test period through the end of the attrition period and provided in detail on MFG 43. All expense categories were forecast using the general growth percentage except for fixed and variable compensation, benefits, intercompany billing, and AGL Services Company ("AGSC") allocation amounts which are based on the 2018 budget and increased by 3% for the six months January – June 2019.

(g). Depreciation and Amortization Expense.

Q. Please describe your forecast of depreciation and amortization expense.

A. Depreciation and amortization expense was estimated using the composite depreciation rates resulting from a deprecation study as proposed in the direct testimony of Mr. Dane Watson and the estimated average utility plant in service for the attrition period. Depreciation also includes an allocated amount of depreciation expense from AGSC which is based upon December 2017 allocation factors.

(h). Taxes Other Than Income.

Q. Please identify and explain the forecast of each element of taxes other than income.

A. Taxes other than income include property, gross receipts, and net worth tax as well as payroll taxes and allocated taxes other than income. As with depreciation expense a portion of AGSC allocated costs for both the attrition period and the test period are assigned to taxes other than income.

Q. How did the Company estimate its attrition period franchise and payroll taxes?

A. Franchise and payroll tax expense calculation utilized estimates based upon the Budget year activity and then applied growth percentages of CPI and 3% (as related to the average annual merit increase), respectively for each tax.

II. DETERMINATION OF RATE BASE

Q. Would you summarize the information contained in Exhibit RDJ-2, Schedule 1 supporting the Company's calculation of base revenue requirement?

A. Exhibit RDJ-2, Schedule 1 summarizes the attrition period forecast of the Company's rate base, which includes plant in service, CWIP, pensions, postretirement benefits other than pensions ("PBOP"), working capital, and certain deductions from rate base. The forecasted attrition period rate base is $159.9 million. The forecast is based on a 13 month average, which normalizes rate base over the attrition period and takes into account any fluctuations during the attrition period.

Q. Please summarize the change between the test period and the attrition period average rate base.

A. The primary differences between the test period and attrition periods can be attributed to the following:

- Utility Plant in Service (including CWIP) $42 million
- Pension $6 million
- Working Capital & Materials $5 million
- Accumulated Depreciation ($8 million)
- Accumulated Deferred Inc. Tax $18 million
- Excess Deferred ($21 million)

(a). Utility Plant and CWIP.

Q. Please describe how you calculated the forecast of Utility Plant in Service and CWIP.

A. MFG 69 provides for the estimated average balance of utility plant in service for the attrition period of $301.4 million and was calculated starting with the actual balance as of June 30, 2017 and subsequently updated for actual balances to December 31, 2017. Additions for January 2018 through December 2018 are based on the Company's budget for 2018. Additions for January 2019 through

June 2019 are based on a forecast specifically prepared for this proceeding. Estimated retirements of plant are based on the average retirements for the four years ended June 2017. MFG 69 provides for the estimated average balance of CWIP for the attrition period of $11 million and is based on the 13 month average balance as of the attrition period utilizing capital expenditures and in-service additions during 2018 and 2019.

The Company has also included in utility plant and CWIP an allocated portion of AGSC attrition period forecasted average utility plant and CWIP. The forecast of AGSC utility plant is based on a combination of forecasts and preliminary budget data from the end of the test year through the attrition period and an estimate of retirements based on historic experience. The forecast of AGSC CWIP is based on the 13 month average balance as of the attrition period utilizing capital expenditures and in-service additions.

The forecasted balance of AGSC attrition period utility plant and CWIP allocated to CGC is based on the ratio of AGSC expenses allocated to CGC to total AGSC expenses allocated to all AGSC affiliates. This ratio is 1.9% and can be supported by calculations found in MFG 71. Allocation of rate base items from AGSC is necessary to reflect the investment made by AGSC in providing services to CGC.

(b). Pension and Post-Retirement Assets.

Q. Please describe the pension and post-retirement assets and how it was calculated

A. The pension and post-retirement asset amounts are based on statements provided by Mercer, the Company's actuary and included with MFG 50.

Q. Is this the Company proposing a change to how pension expense and the associated rate base is treated in this case?

A. Yes. The Company is proposing to recover pension expense in accordance with generally accepted accounting principles ("GAAP"). This is consistent with the manner in which the company recovers OPEB expense and provides a consistent method of recording expense for both GAAP and ratemaking purposes.

(c). Working Capital Requirement.

Q. Please explain the components of the working capital requirement and how each component was calculated.

A. The components of the estimated working capital requirement for the attrition period are included in Schedules 2 and 3 of Exhibit RDJ-2 and were calculated as follows:

(d). Requirement for Lead-lag.

The requirement for lead lag was calculated based on the lead lag study as proposed in the direct testimony of Mr. Michael Adams. There have been no significant changes to the Company's operations that would materially impact the lead lag study. The calculation of the requirement for lead lag is provided in Exhibit RDJ-2, Schedule 3 and supported by MFG 72.

(e). Materials and Supplies.

This calculation is based upon a 13-month average for the test period, June 2016 through June 2017. The use of a 13 month average allows for the reflection of any seasonality of these accounts.

(f). Stored Gas Inventory.

The starting point for the calculation of average stored gas inventory was the actual volumes and dollar amounts of inventory as of December 31, 2017. These balances were then projected monthly as follows: From January 2018 through June 2019, injections were forecast based on the Company's current injection schedule, ratably April through October for two of the underground storages, Firm Storage Production Area or FSPA and Firm Storage Market Area or FSMA, and liquefied natural gas storage and May through September for Contract Storage Service or CSS, the third underground storage. Injection volumes in each year are based on the Company's March 31st ending balance and the targeted storage levels entering the winter season. Injections are forecast and managed by AGSC's Gas Supply Group. Withdrawals were forecasted based on the estimated need to utilize stored gas inventory during the winter season while maintaining an adequate level of storage to mitigate any unseen circumstances or events. Withdrawals are also forecast and managed by AGSC's Gas Supply Group.

Pricing for the injections was calculated using the NYMEX futures price for natural gas as of October 21, 2017 plus the variable costs incurred to inject the gas into the Company's storage facilities. Pricing for the withdrawals was calculated using the monthly weighted average cost of gas, which was re-calculated each month based on the applicable withdrawals, injections and

NYMEX futures price. Additionally, the cost of liquefaction is included in the calculation for the LNG storage facility. The thirteen month average for the attrition period (June 2018 through June 2019) was then calculated using the monthly projected balances of the stored gas inventory.

(g). Deferred Rate Case Costs.

The deferred rate case costs included in MFG 58 represent the estimated external costs that have been or will be incurred in this case including legal, depreciation study, class cost of service, and cost of equity.

(h). Reserve for Uncollectible Accounts.

MFG 69 provides details regarding the average reserve for uncollectible accounts. The average reserve was calculated using the ratio of the average historical reserve balance from January 2016 through December 2017 to the average historical operating margin for the same period. This ratio was then applied to the estimated operating margin for the attrition period.

(i). Customer Deposits and Related Accrued Interest.

Customer deposits are based on the December 2017 13-month average balance, adjusted for the most recent 3-year average growth rate. Accrued interest on customer deposits for the attrition period was based on actual amounts for the period ended December 2017. Support for both calculations are provided for on MFG 69.

(j) Accumulated Depreciation.

MFG 69 provides support for accumulated depreciation. Accumulated depreciation is estimated to be $127.9 million for the attrition period. The balance of accumulated provision for depreciation was calculated starting with the actual balance as of December 31, 2017. This balance was then projected through the end of the attrition period by adding estimated depreciation expense and subtracting estimated plant retirements and the net cost of removal. Depreciation expense for January 2018 through June 2018 was calculated by multiplying the average plant balances during those time periods by the currently authorized rates. Depreciation expense for July 2018 through June 2019 was calculated by multiplying the average plant balance for the 13 months ending June 2019 by the proposed depreciation rates from the depreciation study supported by the direct testimony of Mr. Watson.

(k). Accumulated Deferred Income Tax.

ADIT was calculated using the account balances as of December 31, 2017, and then projecting through June 2019 for changes to the components of the accumulated deferred income tax balances. The primary component of the ADIT projection is the increase due to the difference in tax depreciation and book depreciation through the end of the attrition period. Tax and book depreciation were estimated based on the existing property balances and estimated changes to those balances. The difference multiplied by the income tax rates results in the change in ADIT. The Company also estimated other ADIT items either based on specific forecasts or historic experience.

As discussed previously in my testimony and included with MFG 69 , the effect of the newly adopted Tax Cuts and Jobs Act has also been incorporated in the determination of ADIT. The tax depreciation calculation includes Modified

Accelerated Cost Recovery System ("MACRS") rates for years 2018 and 2019 without bonus depreciation, with the exception of $3.6 million of assets acquired during Q4 2017 and expected to be placed in service during the Q1 2018 that qualify for bonus depreciation. The regulatory liability associated with the Company's EDIT is also included as a component of ADIT and included in Exhibit RDJ 2-1, line 7. The Calculation of the amortization of the EDIT is included in MFG 61-2, line 27.

(l). Contributions in Aid of Construction and Customer Advances for Construction.

Consistent with the Federal Energy Regulatory Commission System of Accounts, the Company includes contributions in aid of construction ("CIAC") as a reduction to plant balances and net with CWIP. As a result of the purchase of Power Plan, CIAC activity is no longer tracked in separate accounts but instead net with the assets as a part of CWIP included on Exhibit RDJ, Schedule 1. Additionally, The Company does not expect a change to customer advances for construction.

III. COST OF CAPITAL

Q. Would you summarize the information contained in Exhibit RDJ-3, Schedule 1 supporting the Company's Cost of Capital?

A. Exhibit RDJ-3, Schedule 1 is the Summary of Estimated Cost of Capital as of June 30, 2019. Column 1 provides the capitalization ratios of each component of the capital structure. Column 2 provides the cost of each component of capital, both supported by MFG 81, and column 3 provides the weighted average cost of capital.

Q. Would you explain how you calculated the proposed capital structure?

A. The Company's proposed capital structure is 44.47% long-term debt, 6.30% short-term debt and 49.23% equity. The calculations are shown on Exhibit RDJ-3, Schedule 1 and based on the consolidated capital structure of Southern Company Gas adjusted for non-ratemaking components such as other comprehensive income and the impact of the acquisition by Southern Company.

Q. How did the newly adopted Tax Cuts and Jobs Act impact the capitalization ratios of Southern Company Gas?

A. One of the key credit metrics used by ratings agencies to analyze and assess the credit worthiness of companies is the ratio of funds from operations ("FFO") to total debt. One of the items included in FFO is the cash flow impact of deferred income taxes. Under previous tax law, bonus depreciation was allowed at 40% in 2018 and 30% in 2019. This provided for immediate depreciation of plant placed in service in 2018 and 2019 at 40% and 30%, respectively of the basis of the plant asset. This provided additional cash in-flows with a corresponding increase to ADIT. The effect of the elimination of bonus depreciation in the Act is to decrease FFO thereby reducing the FFO to total debt ratio. Long-term deterioration of the FFO to total debt ratio would result in a downgrade in credit ratings for Southern Company Gas resulting in higher debt costs for Southern Company Gas and ultimately customers. To mitigate the impact of the Act on Southern Company Gas' credit rating, Southern Company Gas will begin increasing its equity component of the capital structure. This will reduce the long-term debt component and allow Southern Company Gas to maintain its strong credit ratings.

Q. How did the Company determine the cost of short-term debt?

A. The estimated cost of short-term debt is based on Southern Company Gas' projected short-term debt cost of its commercial paper program and credit facility. The projected short-term debt cost includes the monthly average of the forward curve for the 30-day London Inter-Bank Offering Rate ("LIBOR") from September 2017-December 2018, plus the estimated spread between LIBOR and the commercial paper rate and the estimated costs associated with Southern Company Gas's credit facility and other short-term debt related costs.

Q. How did the Company determine the cost of long-term debt?

A. The cost of long-term debt includes the cost of senior notes, medium-term notes, and revenue bonds within the consolidated debt structure of Southern Company Gas, excluding Northern Illinois Gas Company d/b/a Nicor Gas Company ("Nicor") for the reason that Nicor issues its own long and short term debt. The Company calculated the cost projection using actual interest rates and monthly amortization of debt costs, as well as forecasted debt issuances expected to be made during the period January 1, 2018-June 30, 2019.

Q. How was the cost of common equity determined?

A. The calculation of the cost of common equity of 11.25% is discussed in the pre-filed direct testimony of Dr. James Vander Weide.

Q. Does this conclude your direct testimony?

A. Yes.

Chattanooga Gas Company
Statement of Income with Proposed Rate Adjustment
Twelve Months Ended June 30, 2019 (Attrition Period)

Line No.	Description	1 Pro Forma Attrition Period	2 Proposed Rate Adjustments		3 Attrition Period with Rate Adjustment	
1	Revenues - Sales of Gas	70,623,501	$6,995,194	(A)	$77,618,695	
2	Cost of Gas	38,791,279			38,791,279	
3	Base Revenues	31,832,222	6,995,194		38,827,416	
4	Other Revenues	612,767	26,863	(B)	639,630	
5	AFUDC	$900,355	-		900,355	
6	Total Operating Revenues	33,345,344	7,022,057		40,367,401	
7	Operation and Maintenance Expense	13,664,603	39,965	(C)	13,704,568	
8	Depreciation Expense	8,035,649	-		8,035,649	
9	Interest on Customer Deposits	96,740	-		96,740	
10	Taxes Other than Federal Income and State Excise	3,523,947	-		3,523,947	
11	Income Taxes	660,313	1,824,770	(D)	2,485,082	(E)
12	Total Operating Expenses	$25,981,252	$1,864,735		$27,845,986	
13	Operating Income for Return	$7,364,092	$5,157,322		$12,521,414	
14	Rate Base	$159,856,710			$159,856,710	(F)
15	Rate of Return	4.61%			7.83%	(G)

(A) RDJ-1, Schedule 2, Line 8
(B) RDJ-1, Schedule 2, Line 11 + RDJ-1, Schedule 2, Line 14
(C) RDJ-1, Schedule 2 Line 12 x RDJ-1 Schedule 2, Line 18
(D) RDJ-1, Schedule 3 Line 25, Column 2 - RDJ-1, Schedule 3 Line 25, Column 1
(E) RDJ-1, Schedule 3, Column 2, Line 25
(F) RDJ-2, Schedule 1, Line 9
(G) Line 13/Line 14

Chattanooga Gas Company
Revenue Adjustment Calculation
For the Twelve Months Ending June 30, 2019 (Attrition Period)

Line No.		Amount	
1	Rate Base	$159,856,710	(A)
2	Operating Income at Present Rates	7,364,092	(B)
3	Earned Rate of Return	4.61%	(C)
4	Proposed Rate of Return	7.83%	(D)
5	Required Operating Income	12,521,416	(E)
6	Operating Income Deficiency	5,157,324	(F)
7	Gross Revenue Conversion Factor	135.636%	(G)
8	Revenue Deficiency	$6,995,194	
9	Components of Revenue Deficiency:		
10	Revenues - Sales of Gas	6,995,194	
11	Other Revenues	-	
12	Total Revenue Deficiency	$6,995,194	
13	Forfeited Discount Ratio	0.3840%	(H)
14	Forfeited Discount	$26,863	(I)
	Revenue Conversion Factor		
15	Operating Revenues	100.000%	
16	Add: Forfeited Discount Ratio	0.384%	(J)
17	Balance	100.384%	
18	Deduct: Uncollectible Ratio	0.571%	(K)
19	Balance	99.813%	
20	State Tax Deduction	6.488%	
21	Balance	93.325%	
22	Deduct: Federal Income Tax	19.598%	
23	Retention Factor	73.727%	
24	Revenue Conversion Factor	135.636%	
25	Uncollectable Ratio	0.569%	(L)
26	Uncollectible Deduction	0.571%	(K)
27	State Tax Rate	6.500%	(M)
28	State Tax Deduction	6.488%	
28	Federal Tax Rate	21.000%	(M)
29	Federal Tax Deduction	19.598%	
(A)	RDJ-2, Schedule 1, Line 9		
(B)	RDJ-1, Schedule 1, Line 13, Column 1		
(C)	Line 2/Line 1		
(D)	RDJ-3, Schedule 1, Line 5, Column 3		
(E)	Line 4 x Line 1		
(F)	Line 5 - Line 2		
(G)	Line 24		
(H)	Line 16		
(I)	Line 12 * Line 13		
(J)	CGC TPUC MFG Item 69, Attachment Forfeited Disc Factor 69-14		
(K)	Line 25* Line 17		
(L)	CGC TPUC MFG Item 25, Attachment Bad Debt MFG 25-6		
(M)	Statutory Rates		

Chattanooga Gas Company
Tennessee Excise and Federal Income Taxes
Twelve Months Ended June 30, 2019 (Attrition Period)

Line No.	Description	1 (A) Attrition Period at Current Rates	2 (A) Attrition Period at Proposed Rates	
1	Revenues - Sales of Gas	$70,623,501	77,618,695	
2	Cost of Gas	38,791,279	38,791,279	
3	Base Revenues	31,832,222	38,827,416	
4	Other Revenues	612,767	639,630	
5	AFUDC	900,355	900,355	
6	Total Operating Revenues	33,345,344	40,367,401	
7	Operation and Maintenance Expense	13,664,603	13,704,568	
8	Depreciation Expense	8,035,649	8,035,649	
9	Interest on Customer Deposits	96,740	96,740	
10	Taxes Other than Federal Income	3,523,947	3,523,947	
11	Net Operating Income Before Interest and Income Taxes	$8,024,404	$15,006,497	
12	Interest Expense	3,667,592	3,667,592	**(B)**
13	Net Income Before Income Taxes	$4,356,812	$11,338,904	
14	Permanent Adjustments to Book Income	7,574	7,574	**(C)**
15	Net Taxable Income	4,364,386	11,346,478	
16	Excise Tax Rate	6.50%	6.50%	**(D)**
17	Excise Tax	$283,685	$737,521	
18	Federal Taxable Income	$4,080,701	$10,608,957	
19	Federal Income Tax Rate	21%	21%	**(D)**
20	Federal Income Tax Expense	$856,947	$2,227,881	
21	Amortization of Deferred Tax Liability - Federal	(21,351)	(21,351)	**(E)**
22	Amortization of Deferred Tax Liability - State	(18,081)	(18,081)	**(F)**
23	Amortization of Deferred Federal Tax Liability - Tax Cuts & Jobs Act	(377,830)	(377,830)	**(G)**
24	Amortization of Deferred State Tax Liability - Tax Cuts & Jobs Act	(63,058)	(63,058)	**(H)**
25	Tennessee Excise and Federal Income Tax Expense	$660,313	$2,485,082	
(A)	RDJ-1, Schedule 1, (except line 12 - see **(B)** below))			
(B)	RDJ-3, Schedule 1, Line 11, Column 1			
(C)	CGC TPUC MFG Item 61-2, Line 6			
(D)	Statutory Rates			
(E)	CGC TPUC MFG Item 61-2, Line 28, Federal			
(F)	CGC TPUC MFG Item 61-2, Line 28, State			
(G)	CGC TPUC MFG Item 61-2, Line 27, Federal			
(H)	CGC TPUC MFG Item 61-2, Line 27, State			

	A	B	C	D	E	F
1						
2	**Chattanooga Gas Company**					
3	**Average Rate Base**					
4	**For the Twelve Months Ending June 30, 2019 (Attrition Period)**					
5						
6	**Line**					
7	**No.**				**Attrition Period**	
8	1		Utility Plant in Service		$301,415,025	**(A)**
9	2		Construction Work In Progress		12,375,743	**(B)**
10	3		Pension		6,631,181	**(C)**
11	4		Postretirement Benefits Other than Pens		2,374,783	**(C)**
12	5		Working Capital Requirement		10,878,534	**(D)**
13					$333,675,265	
14						
15			Less:			
16	6			Accumulated Provision For Deprec	$127,903,439	**(E)**
17	7			Reg. Liability - Excess Deferreds	$21,105,662	**(F)**
18	8			Accumulated Deferred Income Tax	24,809,455	**(G)**
19			Total Deductions		$173,818,555	
20						
21	9			Rate Base	$159,856,710	
22						
23						
24	**(A)**		CGC TPUC MFG Item 69, Attachment Plant in Service 69-1			
25						
26	**(B)**		CGC TPUC MFG Item 69, Attachment CWIP 69-2			
27						
28	**(C)**		CGC TPUC MFG Item 69, Attachment Pensions&OPEB 69-12			
29						
30	**(D)**		RDJ-2, Schedule 2, Line 13			
31						
32	**(E)**		CGC TPUC MFG Item 69, Attachment Accum Depr 69-9			
33						
34	**(F)**		CGC TPUC MFG Item 69, Attachment Tax Cuts & Jobs Act 69-13			
35						
36	**(G)**		CGC TPUC MFG Item 69, Attachment ADITs 69-8, Page 1 of 4			

	A	B	C	D	E
1					
2	**Chattanooga Gas Company**				
3	**Working Capital Requirement**				
4	**For the Twelve Months Ending June 30, 2019 (Attrition Period)**				
5					
6	**Line**				
7	**No.**			**Attrition Period**	
8	1	Requirement For Lead Lag		$2,184,306	**(A)**
9	2	Materials and Supplies		403,477	**(B)**
10	3	Prepayments		46,418	**(B)**
11	4	Stored Gas Inventory		9,710,633	**(C)**
12	5	Deferred Rate Case		762,623	**(D)**
13					
14	6	Total Additions		$13,107,458	
15					
16					
17	7	Reserve for Uncollectibles Accounts		$180,021	**(E)**
18	8	Unclaimed Customer Credits & Checks		72,013	**(F)**
19	9	Reserve for Health Insurance		31,616	**(F)**
20	10	Customer Deposits		1,612,342	**(G)**
21	11	Accrued Interest on Customer Deposits		332,933	**(H)**
22					
23	12	Total Deductions		$2,228,924	
24					
25	13	Working Capital Requirement		$10,878,534	
26					
27					
28	**(A)**	RDJ-2, Schedule 3, Line 25, Column 3			
29					
30	**(B)**	CGC TPUC MFG Item 69, Attachment M&S and Prepay 69-11			
31					
32	**(C)**	CGC TPUC MFG Item 69, Attachment Inventory 69-3			
33					
34	**(D)**	CGC TPUC MFG Item 69, Attachment Deferred Debits 69-4			
35					
36	**(E)**	CGC TPUC MFG Item 69, Attachment Reserves 69-5, Page 1 of 2			
37					
38	**(F)**	CGC TPUC MFG Item 69, Attachment Reserves 69-5, Page 2 of 2			
39					
40	**(G)**	CGC TPUC MFG Item 69, Attachment Customer Deposits 69-6			
41					
42	**(H)**	CGC TPUC MFG Item 69, Attachment Int. on Cust. Deposits 69-7			

Chattanooga Gas Company
Lead Lag Requirement After Revenue Adjustment
For the Twelve Months Ending June 30, 2019 (Attrition Period)

Line No.		1 Required Income Statement Attrition Period	2 (A) Lag Days	3 $ Days	
1	Revenues	$ 79,158,679	43.76	3,464,099,494	
2	Gas Purchased	$ 38,791,279	40.94	1,588,293,591	
3	Salary and Wages	3,594,761	39.02	140,259,773	
4	Pension	31,677	-	-	
5	Postretirement Benefits Other than Pens	(114,698)	-	-	
	Miscellaneous Employee Benefits	1,781	4.47	7,959	
	401K Benefits	102,951	12.07	1,242,518	
6	Health/Life Insurance Expense	625,459	8.98	5,617,439	
7	Allocated Cost	5,371,530	21.94	117,824,735	
8	Uncollectible	204,108	43.76	8,932,049	
9	Other Operating	4,376,312	31.49	137,791,970	
10	Depreciation and Amortization	7,718,130	-	-	
11	Taxes - Other Than Income Tax	3,366,535	118.49	398,891,138	
12	SIT Current	451,716	37.88	17,108,741	
13	SIT Deferred	204,666	-	-	
14	FIT Current	1,991,439	37.88	75,425,756	
15	FIT Deferred	(162,739)	-	-	
16	Interest on Customer Deposits	96,740	-	-	
17	Interest ST Debt	303,408	(51.36)	(15,583,187)	
18	Interest LT Debt	3,364,184	45.76	153,932,105	
19	Equity Return	8,839,440	-	-	
20	Total Operating Funds	$ 79,158,679	33.22	$ 2,629,744,585	
21	Net Lead (Lag) Days		10.54		
22	Average Daily Operating Expenses			$ 216,873	
23	CWC Required for Operating Expenses			2,285,904	
24	Tax Collections Withheld			(101,598)	**(B)**
25	Net Cash Working Capital Provided			$ 2,184,306	
(A)	MJA-1, Schedule 1, Column B				
(B)	CGC TPUC MFG Item 25, Attachment Sales Tax Coll MFG 25-7				

Chattanooga Gas Company
Summary of Estimated Consolidated Cost of Capital
For the Twelve Months Ending June 30, 2019 (Attrition Period)

Line No.	Capital Structure Component	1 Ratio	2 Cost Rate	3 Weighted Average Cost	
1	Short-term debt	6.30%	3.01%	0.19%	**(A)**
2	Long-Term Debt	44.47%	4.73%	2.10%	**(A)**
3	Total Debt	50.77%		2.29%	
4	Common Equity	49.23%	11.25%	5.54%	**(A)**
5	Total Capitalization	100.00%		7.83%	

Retail Interest Expense Calculation

Line No.		
6	Estimated Rate Base	159,856,710
7	Weighted Average Short Term Rate	0.19%
8	Short Term Interest	303,408
9	Weighted Average Long Term Rate	2.10%
10	Long term Interest	3,364,184
11	Total Interest	3,667,592

(A) CGC TPUC MFG Item 81-1