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July 2, 2020

Via Email and U.S. Mail

Executive Director Earl Taylor
c/o Ectory Lawless
Tennessee Public Utility Commission
502 Deaderick Street, Fourth Floor
Nashville, Tennessee 37243

Re: Piedmont Natural Gas Company, Inc. Petition for an Adjustment of Rates, Charges, and Tariffs Applicable to Service in Tennessee; Docket No.: 20- 00086

Dear Mr. Taylor:

Enclosed please find for filing the original and four copies of the following documents:

1. Petition;
2. Direct testimony and exhibits of:
 - a. Sasha Weintraub
 - b. John Sullivan
 - c. Brian Weisker
 - d. Pia Powers
 - e. Kally Couzens
 - f. Quynh Bowman
 - g. Dylan D'Ascendis
 - h. Dane Watson
 - i. Paul Normand (Cash Working Capital)
 - j. Paul Normand (Cost of Service)
3. Redline of Revised Tariff included as Exhibit_(PKP-2) to the testimony of Pia K. Powers;
4. Minimum Filing Guidelines (some of which are being filed under seal); and
5. Proposed Procedural Schedule.

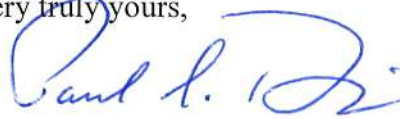
This material is also being filed today by way of email to the Tennessee Public Utility Commission docket manager, Ectory Lawless. Please file the original and provide a "filed" stamped copy of the same via our office courier.

A courtesy copy of this filing is being provided to the Consumer Advocate and Protection Division of the Office of the Attorney General and Reporter. Please be advised that Piedmont has

reached out to the Consumer Advocate's representatives and is working collaboratively with them on a proposed Protective Order for this proceeding which we hope to file with the Commission shortly.

Please do not hesitate to call me if you have any questions.

Very truly yours,



Paul S. Davidson

PSD:cdg
Enclosures

cc: David Foster
Michelle Mairs
Vance Broemel
Daniel Whitaker
Bruce Barkley
Pia Powers
James Jeffries
Melinda McGrath

Tennessee Public Utility Commission

Docket No. 20- 00086

Direct Testimony and Exhibits

Of

Paul M. Normand

Embedded Cost of Service

Rate Design Recommendations

On Behalf of

Piedmont Natural Gas Company, Inc.



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**DIRECT TESTIMONY OF PAUL M. NORMAND
ON BEHALF OF
PIEDMONT NATURAL GAS COMPANY, INC.**

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**DIRECT TESTIMONY OF PAUL M. NORMAND
ON BEHALF OF
PIEDMONT NATURAL GAS COMPANY, INC.**

LIST OF EXHIBITS

<u>Exhibit</u>	<u>Description</u>
PMN-1-COS	Qualifications of Paul M. Normand
PMN-2-COS	Company Accounting Cost of Service Summary Results
PMN-3-COS	Summary Revenue Requirements at Existing and Proposed Equalized Rate of Return
PMN-4-COS	Rate Design
PMN-5-COS	Class Embedded Cost of Service Detailed Results Based on 12 Months Ending 12/31/2021
PMN-6-COS	Class Embedded Cost of Service – Unbundled Summary of Results Based on Attrition Period 12 Months Ended 12/31/2021 – Existing Rate of Return – Proposed Rate of Return
PMN-7-COS	Minimum-Size System Analysis
PMN-8-COS	Description of Allocation Factors
PMN-9-COS	Cost of Service Workpapers



INTRODUCTION

Q. Please state your name, address and position.

A. My name is Paul M. Normand. I am a management consultant and president with the firm of Management Applications Consulting, Inc., 1103 Rocky Drive, Suite 201, Reading, PA 19609.

Q. Please state your qualifications.

A. My qualifications are shown on Exhibit PMN-1-COS.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I have been retained by and am testifying on behalf of Piedmont Natural Gas Company, Inc. for its natural gas operations in Tennessee (“Piedmont”, “PNG” or “the Company”).

SCOPE OF TESTIMONY

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present and sponsor the class accounting cost of service study. I also developed the target class revenues and designed the proposed base rates to achieve these class revenues. The specific cost areas are presented in Exhibits PMN-2-COS through PMN-9-COS, prepared under my supervision and direction. Exhibit PMN-8-COS provides a description of the allocation factors used in the cost study results presented on Exhibits PMN-2-COS and PMN-3-COS. Lastly, I prepared a separate analysis of fixed pipeline demand cost allocations and present my recommended class allocation of those costs as associated proposed rates.



1 **Q. Please outline the organization of your testimony and exhibits.**

2 A. Exhibit PMN-2-COS contains the class accounting cost of service study summary results
3 at the actual return using the Attrition Period ending December 31, 2021. Exhibit PMN-
4 3-COS contains the class accounting cost of service study summary revenue requirements
5 at existing and proposed equalized class rate of return. Exhibit PMN-3-COS also contains
6 the rate of return results using the proposed rate design class revenues for comparison
7 purposes. Exhibit PMN-4-COS presents the development of class base revenue targets
8 and the rate design calculations for the proposed rates and associated revenue targets.
9 Exhibit PMN-5-COS presents the complete detailed output of the Attrition Period class
10 accounting cost of service study as summarized in Exhibit PMN-2-COS showing all plant
11 accounts and expenses along with their individual allocations to classes. Exhibit PMN-6-
12 COS presents the Summary Unbundled Costs results of Exhibit PMN-3-COS by major
13 cost categories in the study based on the adjusted Attrition Period ending December 31,
14 2021. This exhibit also presents the detailed cost component that identifies the fixed
15 demand and customer costs for each customer class at both existing (pages 1 and 2) and a
16 uniform claimed rate of return (pages 3 and 4). Exhibit PMN-7-COS develops the
17 Minimum-Size System analysis for the Company's distribution mains which was utilized
18 in Exhibit PMN-5-COS. Exhibit PMN-8-COS provides a description of the allocation
19 factors used in the accounting cost of service study (Exhibit PMN-5-COS). Exhibit
20 PMN-9-COS provides the detailed support for the allocation factors used in the cost of
21 service study and the detailed support for the recommended fixed pipeline demand cost
22 allocations.



EMBEDDED COST OF SERVICE STUDY

Embedded Cost of Service Study

Q. Would you briefly define an Embedded Cost of Service Study?

A. An embedded cost of service study is performed to help ensure that costs are allocated among customer classes based on how those customers cause costs to be incurred. Since these costs are allocated, an Embedded Cost of Service Study is also referred to as an Allocated Cost of Service Study. The cost to serve the customers of any utility company consists generally of operating expenses and return. For a historical test period, these costs are on record and the overall cost to serve the collective customers of the utility may be readily established. On the other hand, the unique cost to serve customers of the various service classifications is much less apparent. Costs can vary significantly between customer classes depending upon the nature of their demands upon the system and the facilities required to serve them. The purpose of an allocated cost of service study is to assign or allocate each relevant component of cost on an appropriate basis in order to determine the proper cost to serve each customer class. The result is a cost matrix displaying for each cost category the detailed costs of serving each customer class in this study.

Q. Please describe the procedure that you used in preparing your Embedded Cost of Service Study?

A. Through the application of a computerized cost model developed by Management Applications Consulting specifically for Piedmont operations, it was possible to treat each element of Rate Base, Revenue and Operating Expense in detail and to assign or



1 allocate each item to the various customer classes. The complete detailed process is
2 reflected in Exhibit PMN-5-COS and reflects PNG's cost to serve for the Attrition Period
3 ending December 31, 2021. The specific Attrition Period expense and rate base
4 adjustments are presented and discussed in the Company's testimony and exhibits of
5 Witness Quynh Bowman, while the specific Attrition Period revenue adjustments are
6 presented and discussed in the Company's testimony and exhibits of Witness Kally
7 Couzens.

8
9 **Q. Please summarize your cost of service study.**

10 A. Exhibit PMN-2-COS shows the complete summary details of the cost of service study by
11 customer class of service for the development of Rate Base, O&M Expenses, Taxes,
12 Return and Rate of Return. Exhibit PMN-3-COS shows a summary detail class cost of
13 service study where the existing, uniform and targeted revenue requirements from each
14 class are included in the calculations to generate existing and uniform class rates of
15 return equal to the overall 7.10% targeted rate of return identified by the Company for its
16 cost of service. A separate Proposed Revenues section was included to present the class
17 revenue requirements with the Company's proposed revenue class revenues from Exhibit
18 PMN-4-COS. A second analysis, Exhibit PMN-6-COS, summarizes the costs to serve
19 each major cost category component at present rates and at an equalized class rate of
20 return target for each class of service to assist in the rate design process. The calculated
21 monthly customer charge for each class of service is shown on line 40 for both the
22 existing (pages 1 and 2) and uniform rate of return (pages 3 and 4).



Description of Cost of Service Model

Q. How does the computerized cost model operate?

A. The cost model is essentially a cost matrix. The vertical dimension of the study consists of the costs to serve as provided by the Company. The development of the cost of service study begins with rate base and continues with revenues, operating expenses, taxes, and the computation of a labor allocator. The cost model includes three additional pieces, a summary of costs to serve, a list of the allocation factors employed in the study and a revenue requirements section. The horizontal portion consists of the assignment of all costs to each of the Company's customer classes.

Each page, starting with page 1 has an important column immediately preceding the numerical data marked "ALLOC", an abbreviation for ALLOCATOR. The ALLOC column contains an acronym to indicate the allocation factor used to allocate the costs shown in the Total Company Column to each customer class. A tabulation of these allocators in absolute form, typically total dollars or volumes, and as a percent of total, has been provided at the end of the study beginning on page 31 in Exhibit PMN-5-COS. Using these allocation factors, costs shown in the Total Company column that were not directly assigned were allocated to each customer class. The cost of service information provided in the "Total" vertical column is based on the testimony and exhibits for the test year provided by the Company.

Q. What customer classes did you recognize in your Cost of Service Study?

A. The cost of service study recognized and allocated the Company's cost to all firm sales and transportation customer tariff classes as follows:



<u>Rate Designation</u>	<u>Cost of Service Page</u>	<u>Description</u>
301	1	Residential Service
302	1	Small General Service
352	1	Medium General Service
303	1	Firm Large General Sales Service
304 and 314	1	Interruptible Large General Service (Combined Sales & Transportation Summary)
313	1	Firm Large General Transportation Service
310	1	Resale Service
304	2	Interruptible Large General Sales Service
314	2	Interruptible Large General Transportation Service

Cost of Service Model Allocation Methodology

Q. Would you please tell us how you chose allocation factors for your cost study?

A. In the cost allocation process, I attempted to determine the intended use of specific plant investments and then examined the specific use of these assets in the test year. As part of the cost of service process, I then separately developed the required external allocators or selected internal allocators to assign the various costs appropriately to each customer class. A complete and detailed list of each allocation factor has been provided in Exhibit PMN-5-COS, pages 31 through 56. Pages 31 through 42 present the total actual Company values while the remaining pages 43 through 56 reformat and unitize these same values with each factor totaling to unity or one. The detailed development and support of these allocators has been provided in the workpapers (Exhibit PMN-9-COS).

Q. How are gas supply costs assigned to customer classes?

A. Piedmont utilizes a diversified mix of supply sources in order to serve its customers. The gas supply revenues and offsetting gas costs were provided by the Company for each



customer class, and those amounts are reflected in the cost of service studies (Exhibit PMN-5-COS, pages 9 and 10).

Rate Base Allocation

Q. Please describe the allocation of rate base to customer classes.

A. Rate base allocation is shown on pages 3 through 8 of Exhibit PMN-5-COS. Local Storage plant costs were allocated only to sales customer classes using a Remaining Design Day Sales allocator.

Transmission plant reflects investments in larger high-pressure facilities to deliver gas to the Company's key distribution service areas from its pipeline suppliers. Distribution plant represents investment in facilities to deliver gas to the customer meter from Transmission Plant.\

Transmission Plant and demand-related Distribution Plant were then allocated to customer classes using the Design Day factors shown on pages 31 and 32 of each Exhibit PMN-5-COS. The Design Day allocator was developed by customer class using Company data and is shown in detail in the workpapers (Exhibit PMN-9-COS).

Q. Please describe the allocation of Distribution Mains Acct 376 to customer classes.

A. The Distribution Mains account has been classified as demand (37.69%) and customer (62.31%) related based on the results of the minimum-size study described below with the details provided in Exhibit PMN-7-COS. The Distribution Mains account was separated into two cost categories: 2-inch and below and above 2 inches. The 2-inch and below account for 62.31% of Distribution Mains are classified as customer related.



1 Since most large customers are not served by a 2-inch or smaller sized pipe, this
2 customer related portion, 62.31%, is allocated to the Residential and Small Commercial
3 rate classes based on their respective customer counts. The remaining customer related
4 portion of mains greater than 2 inches, 18.25% (37.69×48.42), is allocated to all
5 customers on an adjusted customer allocation factor for small users. The demand portion
6 of mains greater than 2 inches, 19.44% (37.69×51.58) is allocated to all customer classes
7 based on their respective class design day demands (reference Exhibit PMN-9-COS for
8 development).

9
10 The adjusted customer allocation factor approach for small users is to fully recognize that
11 all mains greater than 2 inches results from the aggregation of loads from smaller mains
12 and this results in the need for larger diameter mains. As a result, large diameter mains
13 are primarily a direct function of load and not customers. In order to achieve a more
14 equitable allocation of these costs, a use per customer for the large customers is derived.
15 This use per customer is then used to divide the consumption of each customer class that
16 was assigned costs for 2-inch and below (Residential and Small General) to derive an
17 equivalent customer count for each of these classes for the larger diameter mains. The
18 classes other than those assigned cost for 2-inch and below will use their respective
19 customer count for the development of the mains above 2 inches customer allocation
20 factor. See Exhibit PMN-7-COS and Exhibit PMN-9-COS for the development of this
21 allocation factor.

22



Minimum-Size System Cost Analysis

Q. Have you included the use of a minimum-size system approach in identifying customer-related costs for the Company's distribution plant mains investments?

A. Yes, I have prepared an analysis of the Company's Mains, Account 376 with respect to the minimum-size system approach. Exhibit PMN-7-COS consists of nine pages of historical analysis of this account with respect to installed footage per pipe size along with dollar estimates of cost by pipe size.

Q. Could you briefly discuss your Exhibit PMN-7-COS results?

A. Yes. Exhibit PMN-7-COS consists of nine pages with the summary results shown in page 8, Section A, for each size pipe installed and their installed costs per foot. Since most large customers are not served by a 2-inch or below size pipe, we segregated the population results as 2-inch and below and greater than 2 inches. This separation shows that for 2-inch and below, footage is 11,503,058 or 62.31% of the total installed pipe footage (Exhibit PMN-7-COS, page 8, Section A, lines 19-22). Noted in Section A are the results of the minimum-size system study with the use of the 2-inch and below pipe as 100% customer related which represents the minimum size main being installed. The remaining pipe sizes representing the larger trunkline pipe network aggregating smaller pipe sizes and larger loads are shown in Section A, line 15, which represent \$167,460,160 out of a total of \$383,499,975 of total current cost estimate of all pipe sizes (column (d)). Using the total \$167,460,160 total current costs for the greater than 2-inch pipe costs, we priced out all these larger sizes at the 2-inch minimum size costs of \$16.09 per foot (column (c)) to derive the customer-related portion only (column (f)) which



1 resulted in \$81,086,260 as customer related, or 48.42% of the total of \$167,460,160, for
2 the greater than 2-inch pipe installed.

3
4 Section B of page 8 presents the average costs per foot over the four years (2016-2019)
5 from the Company's available information with the results in column (f) being used in
6 Section A final results as column (c) for the derivation of the minimum-size system
7 results. These costs are based on the information developed in Sections C and D, below.
8 Page 9, Section C, identifies the booked costs per year by pipe sizes which are then
9 adjusted to current cost \$ (2019) using the GDP-IPO inflator in Section D. Section E
10 simply identifies the installed footage by pipe size for the four historical years which are
11 consistent with the costs developed in Sections C and D. The results in Section A are
12 then used to derive the unit costs per foot and size as shown in Section B of page 8.

13 **Q. What are the other customer-related allocation factors included in your cost of**
14 **service study?**

15 A. Customer-related plant items were allocated using various **CUST**-prefixed allocators for
16 services, meters, and other such customer-related items. A complete list of these factors
17 has been provided on pages 43 and 44 of the cost of service study, Exhibit PMN-5-COS.

18
19 **Q. How was general plant allocated on page 3 of Exhibit PMN-5-COS?**

20 A. General plant was allocated on an internally generated labor allocation factor (**LABOR**)
21 based on labor expensed and capitalized in the test period. Each Operations and
22 Maintenance account was examined to determine the labor portion of expense included.
23 The labor portions of these costs were allocated separately in the same manner as the



total Operations and Maintenance accounts were allocated. The development of this allocator is shown on Exhibit PMN-5-COS, pages 25 through 30.

Q. How was each account of depreciation reserves assigned?

A. The Plant Depreciation Reserves by function and the distribution account detail were obtained from the Company's records and allocated to customer classes based on the allocation of the corresponding plant account.

Q. How was Construction Work in Progress assigned?

A. The Construction Work in Progress by function were obtained from the Company's records and allocated to customer classes based on the allocation of the corresponding plant account.

Q. What other elements of rate base were included in your study?

A. Each adjustment to rate base has been detailed on Exhibit PMN-5-COS, pages 7 to 8. Additions to net plant included allowance for working capital. The deductions from net plant include unamortized investment tax credits and accumulated deferred income taxes. Each adjustment to rate base was allocated on the most appropriate allocation factor. For example, allowance for working capital items materials and supplies, deferred debits, and cash working funds were allocated on **PLANT** and pensions and OPEB and accrued vacation were allocated on **LABOR**.

Operating Revenues

Q. How were operating revenues assigned?

A. Operating revenues (Exhibit PMN-5-COS, pages 9 and 11) are based on the Company's books and records by customer class allocated on the most appropriate allocation factor.



1 **Q. How did you consider the Company's Unprotected Excess ADIT Refund, Minimum**
2 **Margin Agreement revenues, and Special Contract revenues in your cost of service**
3 **study?**

4 A. The cost of service study (Exhibit PMN-5-COS, pages 9 and 10) directly assigned the
5 Unprotected Excess ADIT Refund and the Minimum Margin Agreement revenues to
6 their respective classes. The Special Contract revenues were allocated on **PLANT**.

7 **Operating Expense Allocation**

8 **Q. How were operating expenses allocated?**

9 A. The allocation of O&M expenses follows the method by which these expenses were
10 incurred. Therefore, the plant-related O&M expenses are allocated using the same
11 allocators used for their associated plant investment. The only exception is with respect
12 to Mains plant accounts where the associated O&M expenses were allocated to
13 interruptible customers based on their respective average demand along with the plant
14 allocation factor.

15 **Q. How were the gas costs assigned?**

16 A. Gas costs were assigned to each customer class by the Company based on the costs
17 recorded on the books. These costs were matched to and equal the associated gas
18 revenues in this study as presented on Exhibit PMN-5-COS, page 9 (line 5) and page 11
19 (line 3).

21 **Q. How were the remaining Operation and Maintenance Expenses allocated?**

22 A. Distribution O&M expenses follow the allocation of distribution plant except for the
23 Operations and Maintenance expenses for Mains which were also allocated to
24 Interruptible customers based on their average demand as part of the final allocation



1 factor. Customer Accounts, Sales Expenses, and Administrative and General Expenses
2 were allocated using a variety of methods based on direct assignments, revenues, plant,
3 and labor costs. Whenever possible, specific information detailing class cost
4 responsibilities or weightings was utilized in order to develop the most accurate cost
5 study possible. Customer Service and Sales Expenses used a composite allocation factor
6 that was weighted 50% on customers and 50% on sales.

7
8 A&G expenses were primarily allocated on the **LABOR** allocator. The remaining A&G
9 expenses were allocated on claimed revenue, **PLANT** and General plant in service.

10
11 **Q. What are the remaining operating expenses?**

12 A. The remaining operating expenses consist of depreciation expenses, taxes other than
13 income taxes, investment tax credit adjustments, state income taxes and a detailed federal
14 income tax calculation.

15
16 **Q. How were these operating expenses allocated?**

17 A. Depreciation expenses were allocated on the basis of plant in service. Taxes Other Than
18 Income Taxes were allocated using the **PLANT** and **LABOR** allocation factors;
19 property, franchise, and other taxes were allocated on **PLANT** and payroll taxes was
20 allocated on **LABOR**. The investment tax credit adjustment was allocated on **PLANT**.
21 Federal income taxes and state taxes were computed for each customer class based on the
22 allocated expenses previously discussed.

23 **Q. Are there any other expenses that you analyzed for this study?**



1 A. The only remaining area is with respect to gas costs which are not a part of the base
2 revenue requirement but are shown in the cost study as an equal offset on pages 5 and 6
3 of Exhibit PMN-5-COS. However, the allocation of the associated fixed demand costs
4 for pipeline required a separate analysis of these costs which I prepared using a
5 Proportional Responsibility method. I included a complete discussion of this approach
6 along with the results in the workpapers (Exhibit PMN-9-COS).

7
8 **Q. Please describe briefly the Proportional Responsibility method.**

9 A. The PR method uses monthly normalized system throughput whereby the calculation
10 recognizes the monthly sendout levels for the test year and calculates a weighting for
11 each month. The resulting monthly ratios are then allocated to each customer class use
12 for that month and then summed to arrive at a final composite allocation by class for the
13 test year. A more complete discussion of our calculations is provided in the accounting
14 cost study workpapers (Exhibit PMN-9-COS).

15
16 **Q. Have you calculated the Proportional Responsibility factors for each customer class**
17 **included in this filing?**

18 A. Yes. The monthly proportional responsibility results by customer class are presented in
19 Exhibit PMN-9-COS, Section 12, Pipeline Demand Cost Allocation.

20
21 **Cost of Service Study Results**

22 **Q. Please summarize the results of your cost study at present rates?**

23 A. The results of my Attrition Period ending December 31, 2021 cost of service study show
24 that the rates presently in effect generate somewhat different rates of return for each



customer class. Exhibits PMN-2-COS, PMN-3-COS, and PMN-6-COS all show that the Company's current rates produce large inequities between the customer classes as summarized in the following table:

Cost of Service Results – Actual Rate of Return ("ROR")

	<u>Exhibit PMN-5-COS</u>	
	<u>ROR (%)</u>	<u>ROR Index</u>
Total Company	4.67	1.000
Residential Service (RS 301)	2.56	0.549
Small General Service (RS 302)	9.47	2.030
Medium General Service (RS 352)	5.78	1.239
Large General Sales Service (RS 303)	7.76	1.664
Interruptible Service (RS 304 & 314)	36.63	7.847
Interruptible Sales Service (RS 304)	22.63	4.849
Firm Transportation Service (RS 313)	13.37	2.865
Interruptible Transportation Service (RS314)	36.82	7.889
Resale Service (RS 310)	4.96	1.051

The customer class ROR inequities shown are primarily related to very large Residential Service revenue deficiencies with the resulting revenue subsidies being provided by all remaining classes.

RATE DESIGN

Q. How did you approach the task of rate design in this case?

A. The cost of service summary results presented in Exhibits PMN-2-COS and PMN-3-COS for PNG Attrition Period ending December 31, 2021 provided the basis or starting point for all of the proposed rate designs presented on Exhibits PMN-4-COS.

Q. Was there a logical progression in your efforts to perform the rate design?



1 A. My rate design efforts were performed in three discrete steps. First, I determined the
2 total costs incurred to serve each customer class using the Attrition Period, Exhibit PMN-
3 3-COS. Next, I examined the accounting cost of service study at the Company's uniform
4 ROR (equalized annual increase) and compared these results to the revenues currently
5 produced by each customer class on Exhibit PMN-3-COS. Finally, I performed the
6 proposed class revenue targets and rate designs utilizing these results and adjusted
7 present rate charges to all rates. The development of the individual class proposed
8 revenue targets are detailed on Exhibit PMN-4-COS, pages 1 and 2.

9
10 **Q. Could you briefly list the factors that you considered in arriving at your proposed**
11 **rate designs?**

12 A. The proposed rate year rate design and class revenue targets considered several very
13 important factors which I will list in the order that they were considered in my decision
14 process:

- 15 1. Existing Rate Structure
- 16 2. Present Rate of Returns and Index of Returns (Exhibits PMN-2-COS and PMN-3-
17 COS)
- 18 3. Cost of Service at a Uniform Target Rate of Return (Exhibit PMN-3-COS)
- 19 4. Use of unbundled costs results presented in Exhibit PMN-6-COS
- 20 5. Initial Target Class Revenue Increases developed on Exhibit PMN-4-COS
- 21 Rate Design calculations using a defined class customer charge

22
23 **Q. Have you prepared an unbundling cost study for PNG?**



1 A. Yes, I have. Exhibit PMN-6-COS provides for the detailed results by major cost
2 categories that are presented in my testimony. The most important aspect of these
3 unbundled results is with respect to the customer-related costs presented on Exhibit
4 PMN-6-COS, pages 3 and 4, at a uniform ROR level for each customer class. These
5 results indicate the proper level of customer-related costs which should be recovered on a
6 monthly basis which I used as a guide in establishing the proposed rate designs presented
7 in Exhibit PMN-4-COS, pages 3 through 5. While it is important to recognize that the
8 delivery-only costs' revenue requirements are essentially fixed and invariant to
9 throughput, the overall goal representing customer impacts prevents establishing the total
10 delivery class revenue requirement as a monthly fixed cost for each customer and
11 requires a continued dependence on volumetric charges for recovery of these fixed costs.

12
13 **Q. How did you establish the target revenue class revenue presented on Exhibit PMN-**
14 **4-COS, page 2?**

15 A. Page 1 of this Exhibit shows the detailed revenue components at present rates. Page 2
16 shows the class revenue increase from Exhibit PMN-3-COS, line 16. Recognizing that
17 the major concern is the revenue deficiency exhibited by the Residential class of
18 \$39,089,354, the required increase will be somewhat prohibitive while all remaining
19 classes would exhibit a revenue decrease. Such charges are not practical and would have
20 a major impact to all customers. In the normal approach to rate design, I employ a more
21 reasoned approach which moderates the increase towards a more balanced cost of service
22 allocation.

23
24 **Q. How did you moderate the class revenue targets proposed?**



1 A. I first recognized that the Company's overall increase was \$29,919,121 or 19.91% above
2 present rates excluding gas costs and the excess ADIT refund. While this is a significant
3 increase, the necessity to increase a severely deficient class (Residential) must be
4 considered if class subsidies are to ever be reduced. To this end, I capped any increase to
5 120% of the overall system increase or 23.9% ($19.9\% \times 1.20$). While this only partially
6 recognizes a cost recovery level, it provides for the reduction of existing subsidies which
7 are shown to be considerable from all the other classes. As a result, the proposed class
8 base revenue increases are detailed on Exhibit PMN-4-COS, page 2, column (R), where
9 only the Residential class required a capped revenue increase limitation. More
10 importantly, column (S) presents the overall increases with gas costs except for
11 Transportation Service classes. After reviewing the cost study results of Exhibit PMN-3-
12 COS, I then set both Medium General Service and Resale Service at the overall average
13 increase of 19.9%.

14
15 The remaining classes represent Small General Service, Large General Service, and both
16 Interruptible Service classes. The General Service class blocks were maintained and
17 increased the same percentage to achieve the overall target revenue level increase.
18 Similarly, both Interruptible Service rates maintained the same blocks but combined their
19 revenue targets to achieve the revenue requirement levels by adjusting the block pricing.
20 While these rates represent a lower increase than the Company's overall 19.9% increase,
21 they reflect the fact that the present revenue levels are already materially inflated from
22 subsidies to the Residential customer class.

Q. Mr. Normand, having established class revenue targets, how did you develop your proposed rate design?

A. The next step in the rate design process is to establish the proposed customer charge. Here, I initially attempt to recover these fixed costs by establishing a goal or target of recovering 50% of these costs in the monthly charge. This approach reduces any cross subsidies and recognizes that the majority of costs for the Company's delivery system are fixed in nature.

To this end, the following table presents the existing customer charges, the costs at a uniform rate of return level, and the final proposed monthly customer charge:

Customer Pricing

	<u>Existing</u>	<u>Cost of Service</u>	<u>Proposed</u>
Residential Winter	17.45	37.32	17.45
Residential Summer	13.45		13.45
Small General Service	44.00	63.29	44.00
Medium General Service	225.00	714.92	300.00
Large General Service	800.00	814.20	800.00
Large Firm Transportation	800.00	825.60	800.00
Resale Service	0.00	842.81	0.00
Interruptible			
304 Sales	800.00	836.55	800.00
314 Transportation	800.00	2,480.38	800.00

Q. Why did you propose no increase to the existing approved customer charges?

A. With the exception of the Medium General Service, the existing approved rates are close to my 50% recovery target or greater. Here, I noted that the costs far exceed the existing level of \$225, and I proposed an increase to \$300 which is still a reasonable step in recognizing these fixed costs recovery but far short of my goal of targeting a 50% recovery level. This increase is somewhat minimized by recognizing that these are large



1 customers using an average of 39,851 therms versus the Small General Service having an
2 average use of 3,410 therms.

3
4 **Q. Once you established your proposed customer charge, how did you then determine**
5 **your proposed volumetric pricing level?**

6 A. Having initially established the class revenue targets, I subtracted the proposed class
7 customer charges and applicable demand charges to obtain a residual revenue
8 requirement which I recovered from increasing proportionately the existing approved
9 block charges. As a result, the block pricing levels will differ between firm and
10 interruptible rates due to the target revenue levels.

11
12 **Q. How do the class revenue targets achieved from your proposed rate design compare**
13 **to using your cost study model?**

14 A. The results are presented on Exhibit PMN-3-COS where lines 1 through 9 show the
15 existing rates and revenue levels with the class rate of return on line 5. Doing the same
16 comparison for the proposed revenue levels (lines 22 through 34), lines 33 and 34 show
17 the rate of return and the associated index of return for each class. The major
18 improvement is with respect to Residential and the individual relative rate of return
19 showing an improvement for all classes as a result (lines 6 and 34).

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

21 A. Yes, it does.
22
23



Exhibit PMN-1-COS

Q. Mr. Normand, what is your present position?

A. I am a principal in the consulting firm of Management Applications Consulting, Inc. (MAC). This Company provides consulting services to the utility industry in such fields as loss studies, econometric studies, cost analyses, rate design, expert testimony, and regulatory assistance. The Company is located in Reading, Pennsylvania.

Q. What is your educational background?

A. I graduated from Northeastern University in 1975, with a Bachelor of Science Degree and a Master of Science Degree in Electrical Engineering-Power System Analysis. I have attended various conferences and meetings concerning engineering and cost analysis.

Q. What is your professional background?

A. I was employed by the Massachusetts Electric Company in the Distribution Engineering Department while attending Northeastern University. My principal areas of assignment included new service, voltage conversions, and system planning. Upon graduation from Northeastern University, I joined Westinghouse Electric Corporation Nuclear Division in Pittsburgh, Pennsylvania. In that position, I assisted in the procurement and economic analysis of electrical/electronic control equipment for the nuclear reactor system. In 1976, I joined Gilbert Associates as an Engineer providing consulting services in the rate and regulatory area to utility companies. I was promoted to Senior Engineer in 1977, Manager of the Austin office 1980, and Director of Rate Regulatory Service in 1981.

In June, 1983, I left Gilbert to form a separate consulting firm and I am now a principal and President of Management Applications Consulting, Inc. My principal areas of concentration have been in loss studies, economic analyses, and pricing.

Q. Have you testified in support of any cost studies that you participated in or performed?

1 A. Yes, I have testified about such studies before the following regulatory agencies: the
2 Maine Public Utility Commission, the Public Utility Commission of Texas, Illinois
3 Commerce Commission, New Hampshire Public Utilities Commission, New Jersey
4 Board of Public Utilities, New York Public Service Commission, Pennsylvania Public
5 Utility Commission, the Massachusetts Department of Public Utilities, the Kentucky
6 Public Service Commission, the Arkansas Public Service Commission, the Public Service
7 Commission of Louisiana, the Public Utilities Commission of Ohio, the Public Service
8 Commission of Missouri, the Delaware Public Service Commission, the Maryland Public
9 Service Commission, the Indiana Utility Regulatory Commission, the North Carolina
10 Utilities Commission and the Federal Energy Regulatory Commission.

11 **Q. Could you please briefly discuss your technical experience?**

12 A. I have performed numerous accounting and marginal cost of service studies, time
13 differentiated bundled and fully unbundled cost studies for both electric and gas utilities
14 since 1980. I have also used such studies in the design and presentation of detailed rate
15 proposals before regulatory agencies.
16 My additional experience has been in the area of unaccounted for loss evaluations for
17 electric and gas utilities for over thirty years. These studies include a detailed review of
18 each system and the calculation of appropriate recovery factors.

Exhibit PMN-2-COS

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

Exhibit PMN-2-COS
Page 1 of 2

Rate Base - 13-mth average attrition period ended 12/31/2021		TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
ALLOC									
SUMMARY OF RESULTS									
1	DEVELOPMENT OF RATE BASE								
2	Gas Plant in Service	PAGE 2	1,545,454,176	1,131,777,084	258,158,874	96,221,741	18,012,531	12,707,318	257,407
3	Plus: CWIP	PAGE 2	42,271,971	30,569,595	7,311,819	2,628,325	520,792	365,265	7,192
4	Less: Depreciation and Amortization Reserve	PAGE 3	506,047,002	397,287,303	76,491,111	20,315,297	3,334,115	3,505,339	62,338
5	Less: Contributions In Aid of Construction	PAGE 3	5,828,754	4,968,430	795,392	45,158	4,898	6,622	75
6	NET GAS PLANT IN SERVICE	PAGE 3	1,075,850,391	760,090,945	188,184,190	78,489,611	15,194,310	9,560,621	202,186
7									
8	PLUS: ADDITIONS TO RATE BASE								
9	Allowance for Working Capital	PAGE 4	32,973,435	22,425,350	6,678,805	2,410,787	560,807	397,996	6,572
10									
11	LESS: DEDUCTIONS TO RATE BASE								
12	Accumulated Deferred Income Taxes	PAGE 4	191,042,334	139,905,369	31,912,479	11,894,514	2,226,631	1,570,823	31,820
13									
14	TOTAL RATE BASE	PAGE 4	917,781,491	642,610,926	162,950,516	69,005,884	13,528,487	8,387,793	176,939
15									
16									
17	DEVELOPMENT OF RETURN								
18	GAS OPERATING REVENUE								
19	Sales Revenue - Base Revenue	PAGE 5	150,271,383	89,404,673	36,888,924	10,714,751	2,336,139	5,857,669	26,773
20	Sales Revenue - Gas Cost Revenue	PAGE 5	61,472,261	35,432,842	16,295,472	6,102,937	2,242,315	50,069	21,031
21	Unprotected Excess ADIT Refund	PAGE 5	(9,333,186)	(5,466,685)	(2,195,895)	(822,401)	(54,605)	(648,888)	(648)
22	Minimum Margin Agree Rev & Special Contracts	PAGE 5	511,464	189,789	43,291	16,136	16,526	2,131	43
23	Other Operating Revenues	PAGE 5	1,120,276	891,369	180,124	21,686	2,328	5,300	52
24	TOTAL GAS OPERATING REVENUES		204,042,198	120,451,988	51,211,917	16,033,109	4,542,703	5,266,281	47,252
25									
26	Less: Cost of Gas	PAGE 6	61,472,261	35,432,842	16,295,473	6,102,937	2,242,315	50,069	21,031
27	Gross Margin		142,569,937	85,019,146	34,916,445	9,930,172	2,300,388	5,216,212	26,220
28									
29	LESS OPERATING EXPENSES:								
30	Operation & Maintenance	PAGES 6-9	57,362,662	41,776,671	9,815,120	3,130,141	626,741	970,485	10,100
31	Depreciation & Amortization	PAGE 10	35,000,905	25,992,647	5,863,400	1,967,295	370,171	261,698	5,625
32	Taxes Other Than Income	PAGE 10	11,225,394	8,218,894	1,885,497	685,765	129,521	99,194	1,902
33	Investment Tax Credit	PAGE 10	(5,077)	(3,718)	(848)	(316)	(59)	(42)	(1)
34	State Income Taxes	PAGES 11	840,234	(61,523)	516,135	112,391	34,798	130,309	214
35	Federal Income Taxes	PAGES 11	(1,954,368)	(5,397,140)	1,875,361	230,335	123,735	706,977	109
36	TOTAL OPERATING EXPENSE		102,469,750	70,525,831	19,954,665	6,125,611	1,284,908	2,392,622	17,950
37									
38	NET OPERATING INCOME	PAGE 10	40,100,187	14,493,315	14,961,780	3,804,561	1,015,481	3,047,590	8,271
39	Less: Interest on Customers' Deposits	PAGE 10	262,957	238,808	24,149	0	0	0	0
40	Plus: AFUDC	PAGE 10	3,001,310	2,197,939	501,351	186,865	34,981	24,678	500
41	NET OPERATING INCOME FOR RETURN	PAGE 10	42,838,540	16,452,446	15,438,982	3,991,426	1,050,461	3,072,268	8,770
42									
43	RATE OF RETURN	PAGE 12	4.67%	2.56%	9.47%	5.78%	7.76%	36.63%	4.96%
44	RELATIVE RATE OF RETURN	PAGE 12	1.000	0.549	2.030	1.239	1.664	7.847	1.062
45									

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

Exhibit PMN-2-COS
Page 2 of 2

Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

(14)

(15)

(16)

SUMMARY OF RESULTS

1	DEVELOPMENT OF RATE BASE								
2	Gas Plant in Service	PAGE 2	184,195	12,523,123					
3	Plus: CWIP	PAGE 2	4,785	360,479					
4	Less: Depreciation and Amortization Reserve	PAGE 3	55,745	3,449,594					
5	Less: Contributions In Aid of Construction	PAGE 3	228	6,395					
6	NET GAS PLANT IN SERVICE	PAGE 3	133,007	9,427,614					
7									
8	PLUS: ADDITIONS TO RATE BASE								
9	Allowance for Working Capital	PAGE 4	3,906	394,090					
10									
11	LESS: DEDUCTIONS TO RATE BASE								
12	Accumulated Deferred Income Taxes	PAGE 4	22,769	1,548,054					
13									
14	TOTAL RATE BASE	PAGE 4	114,144	8,273,650					
15									
16									
17	DEVELOPMENT OF RETURN								
18	GAS OPERATING REVENUE								
19	Sales Revenue - Base Revenue	PAGE 5	46,672	5,810,997					
20	Sales Revenue - Gas Cost Revenue	PAGE 5	50,069	0					
21	Unprotected Excess ADIT Refund	PAGE 5	(1,739)	(647,148)					
22	Minimum Margin Agree Rev & Special Contracts	PAGE 5	31	2,100					
23	Other Operating Revenues	PAGE 5	49	5,251					
24	TOTAL GAS OPERATING REVENUES		95,081	5,171,199					
25									
26	Less: Cost of Gas	PAGE 6	50,069	0					
27	Gross Margin		45,013	5,171,199					
28									
29	LESS OPERATING EXPENSES:								
30	Operation & Maintenance	PAGES 6-9	7,877	962,608					
31	Depreciation & Amortization	PAGE 10	3,984	257,714					
32	Taxes Other Than Income	PAGE 10	1,358	97,836					
33	Investment Tax Credit	PAGE 10	(1)	(41)					
34	State Income Taxes	PAGES 11	1,041	129,268					
35	Federal Income Taxes	PAGES 11	5,277	701,700					
36	TOTAL OPERATING EXPENSE		19,536	2,149,086					
37									
38	NET OPERATING INCOME	PAGE 10	25,477	3,022,113					
39	Less: Interest on Customers' Deposits	PAGE 10	0	0					
40	Plus: AFUDC	PAGE 10	358	24,320					
41	NET OPERATING INCOME FOR RETURN	PAGE 10	25,835	3,046,434					
42									
43	RATE OF RETURN	PAGE 12	22.63%	36.82%					
44	RELATIVE RATE OF RETURN	PAGE 12	4.849	7.889					
45									

Exhibit PMN-3-COS

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

Exhibit PMN-3-COS
Page 1 of 2

Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

TOTAL
COMPANY
(1)-1

Residential
Service
Rate 301
(2)

Small General
Service
Rate 302
(3)

Medium General
Service
Rate 352
(4)

Large General
Service
Rate 303
(5)

Interruptible
Service
Rates 304 & 314
(6)

Firm Transportation
Service
Rate 313
(7)

Sales for
Resale
Rate 310
(8)

REVENUE REQUIREMENTS

PRESENT RATES

1								
2	-----							
3	Rate Base	917,781,491	642,610,926	162,950,516	69,005,884	13,528,487	8,387,793	176,939
4	Net Operating Income (Present Rates)	42,838,540	16,452,446	15,438,982	3,991,426	1,050,461	3,072,268	8,770
5	Rate of Return (Present Rates)	4.67%	2.56%	9.47%	5.78%	7.76%	36.63%	13.37%
6	Relative Rate of Return	1.000	0.549	2.030	1.239	1.664	7.847	1.062
7	Base Gas Sales Revenue (Present Rates)	150,271,383	89,404,673	36,888,924	10,714,751	2,336,139	5,857,669	26,773
8	Annual Booked Therm Sales	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514	95,951,898	31,451
9	Gas Base Sales Revenue \$/Therm (Present Rates)	\$0.4420	\$0.6799	\$0.6100	\$0.4731	\$0.2893	\$0.0610	\$0.8513

CLAIMED RATE OF RETURN

11	-----							
12								
13	Claimed Rate of Return	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%
14	Return Required for Claimed Rate of Return	65,173,499	45,633,087	11,571,442	4,900,246	960,685	595,634	12,565
15	Gas Base Sales Revenue Required at Claimed ROR	180,190,504	128,494,027	31,708,105	11,932,174	2,215,878	2,540,057	31,856
16	Base Sales Revenue Deficiency	29,919,121	39,089,354	(5,180,819)	1,217,423	(120,261)	(3,317,612)	5,083
17	Percent Increase Required	19.91%	43.72%	-14.04%	11.36%	-5.15%	-56.64%	18.98%
18	Annual Booked Therm Sales	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514	95,951,898	31,451
19	Gas Base Sales Revenue \$/Therm (Claimed Rates)	\$0.5300	\$0.9772	\$0.5243	\$0.5268	\$0.2744	\$0.0265	\$1.0129
20	Revenue Deficiency \$/Therm	\$0.0880	\$0.2973	-\$0.0857	\$0.0538	-\$0.0149	-\$0.0346	\$0.1616

PROPOSED REVENUES

21	-----							
22								
23								
24	Proposed Base Gas Sales Revenues	180,442,928	110,763,935	41,614,496	12,848,100	2,682,371	6,607,957	32,104
25	Base Sales Revenue Deficiency	30,171,545	21,359,262	4,725,571	2,133,349	346,232	750,288	5,331
26	Percent Increase Required at Proposed Rates	20.08%	23.89%	12.81%	19.91%	14.82%	12.81%	16.89%
27	Proposed Rate of Return	7.12%	5.04%	11.64%	8.09%	9.68%	43.31%	7.21%
28	Return Required for Proposed Revenue	65,361,936	32,397,374	18,966,673	5,583,995	1,308,927	3,632,367	12,750
29	Annual Booked Therm Sales	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514	95,951,898	31,451
30	Gas Base Sales Revenue \$/Therm (Proposed Rates)	\$0.5307	\$0.8423	\$0.6881	\$0.5673	\$0.3322	\$0.0689	\$1.0208
31	Revenue Deficiency \$/Therm	\$0.0887	\$0.1624	\$0.0781	\$0.0942	\$0.0429	\$0.0078	\$0.1695
32								
33	Proposed Rate of Return	7.12%	5.04%	11.64%	8.09%	9.68%	43.31%	7.21%
34	Relative Rate of Return	1.000	0.708	1.634	1.136	1.359	6.081	1.012
35								
36								
37								
38								
39								
40	Average Use per Customer (therms)	1,754	750	3,410	39,851	156,533	1,881,410	15,726

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

Exhibit PMN-3-COS
Page 2 of 2

Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
REVENUE REQUIREMENTS									
1	PRESENT RATES								
2	-----								
3	Rate Base	114,144	8,273,650						
4	Net Operating Income (Present Rates)	25,835	3,046,434						
5	Rate of Return (Present Rates)	22.63%	36.82%						
6	Relative Rate of Return	4.849	7.889						
7	Base Gas Sales Revenue (Present Rates)	46,672	5,810,997						
8	Annual Booked Therm Sales	257,216	95,694,681						
9	Gas Base Sales Revenue \$/Therm (Present Rates)	\$0.1815	\$0.0607						
10									
11	CLAIMED RATE OF RETURN								
12	-----								
13	Claimed Rate of Return	7.10%	7.10%						
14	Return Required for Claimed Rate of Return	8,106	587,528						
15	Gas Base Sales Revenue Required at Claimed ROR	22,923	2,517,135						
16	Base Sales Revenue Deficiency	(23,749)	(3,293,862)						
17	Percent Increase Required	-50.89%	-56.68%						
18	Annual Booked Therm Sales	257,216	95,694,681						
19	Gas Base Sales Revenue \$/Therm (Claimed Rates)	\$0.0891	\$0.0263						
20	Revenue Deficiency \$/Therm	-\$0.0923	-\$0.0344						
21									
22	PROPOSED REVENUES								
23	-----								
24	Proposed Base Gas Sales Revenues	55,368	6,552,589						
25	Base Sales Revenue Deficiency	8,696	741,592						
26	Percent Increase Required at Proposed Rates	18.63%	12.76%						
27	Proposed Rate of Return	28.32%	43.51%						
28	Return Required for Proposed Revenue	32,326	3,600,040						
29	Annual Booked Therm Sales	257,216	95,694,681						
30	Gas Base Sales Revenue \$/Therm (Proposed Rates)	\$0.2153	\$0.0685						
31	Revenue Deficiency \$/Therm	\$0.0338	\$0.0077						
32									
33	Proposed Rate of Return	28.32%	43.51%						
34	Relative Rate of Return	3.977	6.110						
35									
36									
37									
38									
39									
40	Average Use per Customer (therms)	128,608	1,952,953						
41									
42									
43									
44									
45									

Exhibit PMN-4-COS

[illegible]

Test Period 12 M.E. 12/31/2021

Allocation of Proposed Revenue Adjustments to Base Rates

[illegible]

Piedmont Natural Gas Company, Inc.
Tennessee
Test Period 12 M.E. 12/31/2021
0

Base Revenues at Present and Proposed Rates

WITHOUT GAS COSTS

															Present Rates					Proposed Rates				
Schedule & Cost Component	Quantity	Units	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Revenue	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Revenue	Change									
Residential								Residential																
Rate Schedule 301 - Residential Service																								
Customer Charge-Winter	879,725	Bills	\$17.45				\$17.45	\$ 15,351,201	\$17.45					\$17.45	\$ 15,351,201									
Customer Charge-Summer	1,224,674	Bills	\$13.45				\$13.45	\$ 16,471,865	\$13.45					\$13.45	\$ 16,471,865									
Delivery Charge - Winter	10,058,287	Dts	\$ 2.9009				\$ 2.9009	\$ 29,178,084	\$ 6.3264				\$ 6.3264	\$ 63,632,744										
Delivery Charge - Summer	2,923,630	Dts	\$ 2.4009				\$ 2.4009	\$ 7,019,342	\$ 5.2360				\$ 5.2360	\$ 15,308,124										
Integrity Management Rider Revenues								21,384,181																
Total Revenues								\$ 89,404,673						\$ 110,763,935	23.9%									
Use Per Customer (1)									750					\$ 110,763,450	Target									
Monthly \$ per Customers @ Proposed Equalized ROR (2)									\$37.33															
Small General Service								Small General Service																
Rate Schedule 302 - Small General Service																								
Customer Charge	212,805	Bills	\$44.00				\$44.00	\$ 9,363,420	\$44.00					\$44.00	\$ 9,363,420									
Delivery Charge - Winter	4,081,629	Dts	\$ 3.2787				\$ 3.2787	13,382,437	\$ 5.6988				\$ 5.6988	23,260,387										
Delivery Charge - Summer	1,888,721	Dts	\$ 2.7387				\$ 2.7387	5,172,639	\$ 4.7602				\$ 4.7602	8,990,688										
Integrity Management Rider Revenues								8,970,428																
Total Revenues								\$ 36,888,924						\$ 41,614,496	12.8%									
Use Per Customer (1)									3,410					\$ 41,614,885	Target									
Monthly \$ per Customers @ Proposed Equalized ROR (2)									\$63.32															
Medium General Service								Medium General Service																
Rate Schedule 352 - Medium General Service																								
Customer Charge	6,820	Bills	\$225.00				\$225.00	\$ 1,534,500	\$ 300.00					\$300.00	\$ 2,046,000									
Delivery Charge - Winter	1,557,040	Dts	\$ 3.2787				\$ 3.2787	5,105,068	\$ 5.0853				\$ 5.0853	7,918,018										
Delivery Charge - Summer	678,959	Dts	\$ 2.7387				\$ 2.7387	1,859,466	\$ 4.2478				\$ 4.2478	2,884,083										
Integrity Management Rider Revenues								2,215,717						-										
Total Revenues								\$ 10,714,751						\$ 12,848,100	19.9%									
Use Per Customer (1)									39,851					\$ 12,848,064	Target									
Monthly \$ per Customers @ Proposed Equalized ROR (2)									\$715.22															

WITHOUT GAS COSTS

Present Rates										Proposed Rates						
Base	COG	COG	COG	Unprot Exc	ADIT Refund	Total		Base	COG	COG	COG	Unprot Exc	ADIT Refund	Total		
Margin	Demand	Commodity	Demand	Commodity	Rate	Rate	Revenue	Margin	Demand	Commodity	Demand	Commodity	Rate	Rate	Revenue	Change
Rate	Rate	Rate	Rate	Rate	Rate	Rate	Revenue	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Revenue	Change
Schedule & Cost Component	Quantity	Units														
51	Large General Service															
52	Rate Schedule 303 Large General Sales															
53																
54	Customer Charge	619	Bills		\$800.00		\$800.00	\$	495,200					\$800.00	\$	495,200
55	Demand Charge	80,958	Dts	\$	8.0000		\$8.00		647,665				\$	10.0000	\$10.00	809,581
56																
57	Delivery Charge - First 1,500 Therms	570,665	Dts	\$	0.9195		\$	0.9195	524,727				\$	1.7560	1,002,088	
58	Delivery Charge - Next 2,500 Therms	217,725	Dts	\$	0.8466		\$	0.8466	184,326				\$	1.6168	352,017	
59	Delivery Charge - Next 5,000 Therms	8,763	Dts	\$	0.5963		\$	0.5963	5,226				\$	1.1388	9,980	
60	Delivery Charge - Over 9,000 Therms	0	Dts	\$	0.2277		\$	0.2277	-				\$	0.4349	-	
61	Subtotal Delivery Charges	797,153							\$ 714,278						\$ 1,364,085	
62																
63	Integrity Management Rider Revenues								478,997							
64	Minimum Margin Agreement Revenues								13,505						13,505	
65	Total Revenues								\$ 2,349,644						\$ 2,682,371	14.2%
66																
67	Use Per Customer (1)															
68	Monthly \$ per Customers @ Proposed Equalized ROR (2)														\$ 2,648,935	Target
69																
70																
71	Interruptible Sales Service															
72	Rate Schedule 304 Interruptible Sales Service															
73																
74	Customer Charge	24	Bills		\$800.00		\$	800.00	\$	19,200			\$	800.00	\$	19,200
75																
76	Delivery Charge - First 1,500 Therms	18,010	Dts	\$	0.9195		\$	0.9195	16,560				\$	1.4579	26,256	
77	Delivery Charge - Next 2,500 Therms	7,384	Dts	\$	0.8466		\$	0.8466	6,251				\$	1.3423	9,912	
78	Delivery Charge - Next 5,000 Therms	0	Dts	\$	0.5963		\$	0.5963	-				\$	0.9454	-	
79	Delivery Charge - Over 9,000 Therms	0	Dts	\$	0.2277		\$	0.2277	-				\$	0.3610	-	
80	Subtotal Delivery Charges	25,394							\$ 22,811						\$ 36,168	
81																
82	Integrity Management Rider Revenues								4,661						-	
83	Total Revenues								\$ 46,672						\$ 55,368	18.6%
84																
85	Use Per Customer (1)														\$ 52,651	Target
86	Monthly \$ per Customers @ Proposed Equalized ROR (2)														\$833.08	
87																
88																
89	Large General Transportation Service															
90	Rate Schedule 313 Large Firm Transportation															
91																
92	Customer Charge	928	Bills		\$800.00		\$	800.00	\$	742,400			\$	800.00	\$	742,400
93	Demand Charge	160,281	Dts	\$	8.0000		\$	8.0000	1,282,250				\$	10.0000	1,602,813	
94																
95	Delivery Charge - First 1,500 Therms	1,075,090	Dts	\$	0.9195		\$	0.9195	988,545				\$	1.7560	1,887,857	
96	Delivery Charge - Next 2,500 Therms	643,262	Dts	\$	0.8466		\$	0.8466	544,586				\$	1.6168	1,040,026	
97	Delivery Charge - Next 5,000 Therms	305,047	Dts	\$	0.5963		\$	0.5963	181,899				\$	1.1388	347,387	
98	Delivery Charge - Over 9,000 Therms	79,743	Dts	\$	0.2277		\$	0.2277	18,157				\$	0.4349	34,680	
99	Subtotal Delivery Charges	2,103,142							\$ 1,733,187						\$ 3,309,951	
100																
101	Integrity Management Rider Revenues								1,284,614						-	
102	Minimum Margin Agreement Revenues								238,800						238,800	
103	Total Revenues								\$ 5,281,252						\$ 5,893,964	11.6%
104																
105	Use Per Customer (1)														\$ 5,927,257	Target
106	Monthly \$ per Customers @ Proposed Equalized ROR (2)														\$825.21	12.4%
107																
108																

Piedmont Natural Gas Company, Inc.
Tennessee
Test Period 12 M.E. 12/31/2021
0

Base Revenues at Present and Proposed Rates

WITHOUT GAS COSTS

Schedule & Cost Component	Quantity	Units	Present Rates					Proposed Rates					Revenue	Change	
			Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate			
Interruptible Transport Service															
Rate Schedule 314 Interruptible Transportation Service															
Customer Charge	588	Bills	\$800.00				\$ 800.00	\$ 470,400	\$ 800.00				\$ 800.00	\$ 470,400	
Delivery Charge - First 1,500 Therms	828,004	Dts	\$ 0.9195				\$ 0.9195	761,349	\$ 1.4579				\$ 1.4579	1,207,146	
Delivery Charge - Next 2,500 Therms	1,092,995	Dts	\$ 0.8466				\$ 0.8466	925,330	\$ 1.3423				\$ 1.3423	1,467,128	
Delivery Charge - Next 5,000 Therms	1,182,198	Dts	\$ 0.5963				\$ 0.5963	704,945	\$ 0.9454				\$ 0.9454	1,117,650	
Delivery Charge - Over 9,000 Therms	6,344,226	Dts	\$ 0.2277				\$ 0.2277	1,444,580	\$ 0.3610				\$ 0.3610	2,290,265	
Subtotal Delivery Charges	9,447,422							\$ 3,836,204						\$ 6,082,189	
Integrity Management Rider Revenues								1,504,393						-	
Total Revenues								\$ 5,810,997						\$ 6,552,589	12.8%
Use Per Customer (1)									1,952,953					\$ 6,555,463	Target
Monthly \$ per Customers @ Proposed Equalized ROR (2)									\$1,883.01						12.8%
Resale Service															
Rate Schedule 310 - Resale Service															
Customer Charge	24	Bills						-						-	
Demand Charge	1,800	Dts	\$ 8.0000				\$ 8.00	14,400	\$ 9.6000				\$ 9.60	17,280	
Commodity Charge	3,105	Dts	\$ 0.7518				\$ 0.7518	2,334	\$ 4.7742				\$ 4.7742	14,824	
Integrity Management Rider Revenues								10,039						-	
Total Revenues								\$ 26,773						\$ 32,104	19.9%
Use Per Customer (1)									15,726					\$ 32,104	Target
Monthly \$ per Customers @ Proposed Equalized ROR (2)									\$842.82						
TOTAL SYSTEM REVENUES								\$ 150,523,688					\$ 180,442,928	19.9%	
Special Contract Revenues															
BT MFG ACCT 000144909001								259,159					259,159		
Total Special Contract Revenues								\$ 259,159					\$ 259,159		
TOTAL SYSTEM INCLUDING SPECIAL CONTRACTS								\$ 150,782,847					\$ 180,702,086	19.8%	
INCREASE													\$ 29,919,240		
Target Base Revenue Increase													29,919,121		
Target Fixed Gas Cost Increase													0		
Total Target Increase													29,919,121		
Difference													\$118	0.00%	

Notes:

- (1) Source for Use per Customer is Schedule PMN-5, pages 23 and 24.
(2) Source for \$/Month/Customer is Schedule PMN-6, pages 3 and 4.

INCREASE

Target Base Revenue Increase	29,919,121
Target Fixed Gas Cost Increase	0
Total Target Increase	29,919,121

Difference \$118 0.00%

Piedmont Natural Gas Company, Inc.
Tennessee
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0

Revenues at Present and Proposed Rates

Present Rates										Proposed Rates						
Schedule & Cost Component	Quantity	Units	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Revenue	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Revenue	Change	
Residential									Residential							
Rate Schedule 301 - Residential Service																
Customer Charge-Winter	879,725	Bills	\$17.45				\$17.45	\$ 15,351,201	\$ 17.45				\$17.45	\$ 15,351,201		
Customer Charge-Summer	1,224,674	Bills	\$13.45				\$13.45	\$ 16,471,865	\$ 13.45				\$13.45	\$ 16,471,865		
Delivery Charge - Winter	10,058,287	Therms	\$ 2.9009	\$ 0.7577	\$ 1.9717	\$ (0.4211)	\$ 5.2092	\$ 52,395,627	\$ 6.3264	\$ 0.7823	\$ 1.9717	\$ (0.4211)	\$ 8.6593	\$ 87,097,721		
Delivery Charge - Summer	2,923,630	Therms	\$ 2.4009	\$ 0.7577	\$ 1.9717	\$ (0.4211)	\$ 4.7092	\$ 13,767,956	\$ 5.2360	\$ 0.7823	\$ 1.9717	\$ (0.4211)	\$ 7.5689	\$ 22,128,659		
Integrity Management Rider Revenues								21,384,181						-		
Total Revenues								\$ 119,370,830						\$ 141,049,447	18.2%	
Small General Service									Small General Service							
Rate Schedule 302 - Small General Service																
Customer Charge	212,805	Bills	\$44.00				\$44.00	\$ 9,363,420	\$ 44.00				\$44.00	\$ 9,363,420		
Delivery Charge - Winter	4,081,629	Therms	\$ 3.2787	\$ 0.7577	\$ 1.9717	\$ (0.3678)	\$ 5.6403	23,021,612	\$ 5.6988	\$ 0.7323	\$ 1.9717	\$ (0.3678)	\$ 8.0350	32,795,889		
Delivery Charge - Summer	1,888,721	Therms	\$ 2.7387	\$ 0.7577	\$ 1.9717	\$ (0.3678)	\$ 5.1003	9,633,042	\$ 4.7602	\$ 0.7323	\$ 1.9717	\$ (0.3678)	\$ 7.0964	13,403,118		
Integrity Management Rider Revenues								8,970,428						-		
Total Revenues								\$ 50,988,502						\$ 55,562,427	9.0%	
Medium General Service									Medium General Service							
Rate Schedule 352 - Medium General Service																
Customer Charge	6,820	Bills	\$225.00				\$225.00	\$ 1,534,500	\$ 300.00				\$300.00	\$ 2,046,000		
Delivery Charge - Winter	1,557,040	Therms	\$ 3.2787	\$ 0.7577	\$ 1.9717	\$ (0.3678)	\$ 5.6403	8,782,175	\$ 5.0853	\$ 0.7394	\$ 1.9717	\$ (0.3678)	\$ 7.4286	11,566,630		
Delivery Charge - Summer	678,959	Therms	\$ 2.7387	\$ 0.7577	\$ 1.9717	\$ (0.3678)	\$ 5.1003	3,462,896	\$ 4.2478	\$ 0.7394	\$ 1.9717	\$ (0.3678)	\$ 6.5911	4,475,088		
Integrity Management Rider Revenues								2,215,717						-		
Total Revenues								\$ 15,995,288						\$ 18,087,718	13.1%	
								\$ 66,983,790								

Present Rates

Present Rates										Proposed Rates						
Schedule & Cost Component	Quantity	Units	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Revenue	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Revenue	Change	
Large General Service										Large General Service						
Rate Schedule 303 Large General Sales																
Customer Charge	619	Bills	\$800.00				\$800.00	\$495,200	\$800.00				\$800.00	\$495,200		
Demand Charge	80,958	Therms	\$8.0000	\$8.2829			\$16.28	1,318,233	\$10.0000	\$6.7158			\$16.72	1,353,279		
Delivery Charge - First 1,500 Therms	570,665	Therms	\$0.9195		\$1.9717	\$(0.0685)	\$2.8227	1,610,817	\$1.7560		\$1.9717	\$(0.0685)	\$3.6592	2,088,179		
Delivery Charge - Next 2,500 Therms	217,725	Therms	\$0.8466		\$1.9717	\$(0.0685)	\$2.7498	598,699	\$1.6168		\$1.9717	\$(0.0685)	\$3.5200	766,391		
Delivery Charge - Next 5,000 Therms	8,763	Therms	\$0.5963		\$1.9717	\$(0.0685)	\$2.4995	21,904	\$1.1388		\$1.9717	\$(0.0685)	\$3.0420	26,658		
Delivery Charge - Over 9,000 Therms	0	Therms	\$0.2277		\$1.9717	\$(0.0685)	\$2.1309	-	\$0.4349		\$1.9717	\$(0.0685)	\$2.3381	-		
Subtotal Delivery Charges	797,153							\$2,231,420						\$2,881,228		
Integrity Management Rider Revenues								478,997						-		
Minimum Margin Agreement Revenues								13,505						13,505		
Total Revenues								\$4,537,355						\$4,743,212	4.5%	
Interruptible Sales Service										Interruptible Sales Service						
Rate Schedule 304 Interruptible Sales Service																
Customer Charge	24	Bills	\$800.00				\$800.00	\$19,200	\$800.00				\$800.00	\$19,200		
Delivery Charge - First 1,500 Therms	18,010	Therms	\$0.9195		\$1.9717	\$(0.0685)	\$2.8227	50,835	\$1.4579		\$1.9717	\$(0.0685)	\$3.3611	60,532		
Delivery Charge - Next 2,500 Therms	7,384	Therms	\$0.8466		\$1.9717	\$(0.0685)	\$2.7498	20,305	\$1.3423		\$1.9717	\$(0.0685)	\$3.2455	23,965		
Delivery Charge - Next 5,000 Therms	0	Therms	\$0.5963		\$1.9717	\$(0.0685)	\$2.4995	-	\$0.9454		\$1.9717	\$(0.0685)	\$2.8486	-		
Delivery Charge - Over 9,000 Therms	0	Therms	\$0.2277		\$1.9717	\$(0.0685)	\$2.1309	-	\$0.3610		\$1.9717	\$(0.0685)	\$2.2642	-		
Subtotal Delivery Charges	25,394							\$71,140						\$84,497		
Integrity Management Rider Revenues								4,661						-		
Total Revenues								\$95,001						\$103,697	9.2%	
Large General Transportation Service										Large General Transportation Service						
Rate Schedule 313 Firm Transportation																
Customer Charge	928	Bills	\$800.00				\$800.00	\$742,400	\$800.00				\$800.00	\$742,400		
Demand Charge	160,281	Therms	\$8.0000	\$8.2829			\$16.2829	2,609,844	\$10.0000	\$8.3617			\$18.3617	2,943,037		
Delivery Charge - First 1,500 Therms	1,075,090	Therms	\$0.9195		\$1.9717	\$(0.0685)	\$2.8227	3,034,655	\$1.7560		\$1.9717	\$(0.0685)	\$3.6592	3,933,968		
Delivery Charge - Next 2,500 Therms	643,262	Therms	\$0.8466		\$1.9717	\$(0.0685)	\$2.7498	1,768,842	\$1.6168		\$1.9717	\$(0.0685)	\$3.5200	2,264,283		
Delivery Charge - Next 5,000 Therms	305,047	Therms	\$0.5963		\$1.9717	\$(0.0685)	\$2.4995	762,464	\$1.1388		\$1.9717	\$(0.0685)	\$3.0420	927,952		
Delivery Charge - Over 9,000 Therms	79,743	Therms	\$0.2277		\$1.9717	\$(0.0685)	\$2.1309	169,924	\$0.4349		\$1.9717	\$(0.0685)	\$2.3381	186,447		
Subtotal Delivery Charges	2,103,142							\$5,735,886						\$7,312,650		
Integrity Management Rider Revenues								1,284,614						-		
Minimum Margin Agreement Revenues								238,800						238,800		
Total Revenues								\$10,611,545						\$11,236,887	5.9%	
5.5%																

Piedmont Natural Gas Company, Inc.
Tennessee
Test Period 12 M.E. 12/31/2021
0

Revenues at Present and Proposed Rates

Present Rates									Proposed Rates							
Schedule & Cost Component	Quantity	Units	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Revenue	Base Margin Rate	COG Demand Rate	COG Commodity Rate	Unprot Exc ADIT Refund Rate	Total Rate	Revenue	Change	
Interruptible Transport Service									Interruptible Transport Service							
Rate Schedule 314 Interruptible Transportation Service																
Customer Charge	588	Bills	\$800.00				\$ 800.00	\$ 470,400	\$ 800.00				\$ 800.00	\$ 470,400		
Delivery Charge - First 1,500 Therms	828,004	Therms	\$ 0.9195		\$ 1.9717	\$ (0.0685)	\$ 2.8227	2,337,205	\$ 1.4579		\$ 1.9717	\$ (0.0685)	\$ 3.3611	2,783,003		
Delivery Charge - Next 2,500 Therms	1,092,995	Therms	\$ 0.8466		\$ 1.9717	\$ (0.0685)	\$ 2.7498	3,005,518	\$ 1.3423		\$ 1.9717	\$ (0.0685)	\$ 3.2455	3,547,316		
Delivery Charge - Next 5,000 Therms	1,182,198	Therms	\$ 0.5963		\$ 1.9717	\$ (0.0685)	\$ 2.4995	2,954,904	\$ 0.9454		\$ 1.9717	\$ (0.0685)	\$ 2.8486	3,367,609		
Delivery Charge - Over 9,000 Therms	6,344,226	Therms	\$ 0.2277		\$ 1.9717	\$ (0.0685)	\$ 2.1309	13,518,910	\$ 0.3610		\$ 1.9717	\$ (0.0685)	\$ 2.2642	14,364,595		
Subtotal Delivery Charges	9,447,422							\$ 21,816,538						\$ 24,062,523		
Integrity Management Rider Revenues								1,504,393						-	3.1%	
Total Revenues								\$ 23,791,331						\$ 24,532,923	3.1%	
Resale Service																
Rate Schedule 310 - Resale Service																
Customer Charge	24	Bills						-						-		
Demand Charge	1,800	Therms	\$ 8.0000	\$ 8.2829			\$ 16.28	29,309	\$ 9.6000	\$ 1.3372			\$ 10.94	19,687		
Commodity Charge	3,105	Therms	\$ 0.7518		\$ 1.9717	\$ (0.2086)	\$ 2.5149	7,809	\$ 4.7742		\$ 1.9717	\$ (0.2086)	\$ 6.5373	20,298		
Integrity Management Rider Revenues								10,039						-		
Total Revenues								\$ 47,157						\$ 39,985	-15.2%	
								\$ 39,082,389								
TOTAL SYSTEM REVENUES								\$ 225,437,009							\$ 255,356,297	13.3%
Special Contract Revenues																
BT MFG ACCT 000144909001								259,159							259,159	
Total Special Contract Revenues								\$ 259,159							\$ 259,159	
TOTAL SYSTEM INCLUDING SPECIAL CONTRACTS								\$ 225,696,168							\$ 255,615,456	13.3%
COS								\$ 202,921,922								
									INCREASE						\$ 29,919,288	
									Target Base Revenue Increase						29,919,121	
									Target Fixed Gas Cost Increase						0	
									Total Target Increase						29,919,121	
Difference															\$166	

Exhibit PMN-5-COS

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

Exhibit PMN-5-COS
Page 1 of 56

Rate Base - 13-mth average attrition period ended 12/31/2021				Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
ALLOC		TOTAL COMPANY (1)-1								
SUMMARY OF RESULTS										
1	DEVELOPMENT OF RATE BASE									
2	Gas Plant in Service	PAGE 2	1,545,454,176	1,131,777,084	258,158,874	96,221,741	18,012,531	12,707,318	28,319,222	257,407
3	Plus: CWIP	PAGE 2	42,271,971	30,569,595	7,311,819	2,628,325	520,792	365,265	868,985	7,192
4	Less: Depreciation and Amortization Reserve	PAGE 3	506,047,002	397,287,303	76,491,111	20,315,297	3,334,115	3,505,339	5,051,500	62,338
5	Less: Contributions In Aid of Construction	PAGE 3	5,828,754	4,968,430	795,392	45,158	4,898	6,622	8,179	75
6	NET GAS PLANT IN SERVICE	PAGE 3	1,075,850,391	760,090,945	188,184,190	78,489,611	15,194,310	9,560,621	24,128,528	202,186
7										
8	PLUS: ADDITIONS TO RATE BASE									
9	Allowance for Working Capital	PAGE 4	32,973,435	22,425,350	6,678,805	2,410,787	560,807	397,996	493,118	6,572
10										
11	LESS: DEDUCTIONS TO RATE BASE									
12	Accumulated Deferred Income Taxes	PAGE 4	191,042,334	139,905,369	31,912,479	11,894,514	2,226,631	1,570,823	3,500,699	31,820
13										
14	TOTAL RATE BASE	PAGE 4	917,781,491	642,610,926	162,950,516	69,005,884	13,528,487	8,387,793	21,120,946	176,939
15										
16										
17	DEVELOPMENT OF RETURN									
18	GAS OPERATING REVENUE									
19	Sales Revenue - Base Revenue	PAGE 5	150,271,383	89,404,673	36,888,924	10,714,751	2,336,139	5,857,669	5,042,452	26,773
20	Sales Revenue - Gas Cost Revenue	PAGE 5	61,472,261	35,432,842	16,295,472	6,102,937	2,242,315	50,069	1,327,594	21,031
21	Unprotected Excess ADIT Refund	PAGE 5	(9,333,186)	(5,466,685)	(2,195,895)	(822,401)	(54,605)	(648,888)	(144,065)	(648)
22	Minimum Margin Agree Rev & Special Contracts	PAGE 5	511,464	189,789	43,291	16,136	16,526	2,131	243,549	43
23	Other Operating Revenues	PAGE 5	1,120,276	891,369	180,124	21,686	2,328	5,300	19,417	52
24	TOTAL GAS OPERATING REVENUES		204,042,198	120,451,988	51,211,917	16,033,109	4,542,703	5,266,281	6,488,947	47,252
25										
26	Less: Cost of Gas	PAGE 6	61,472,261	35,432,842	16,295,473	6,102,937	2,242,315	50,069	1,327,594	21,031
27	Gross Margin		142,569,937	85,019,146	34,916,445	9,930,172	2,300,388	5,216,212	5,161,353	26,220
28										
29	LESS OPERATING EXPENSES:									
30	Operation & Maintenance	PAGES 6-9	57,362,662	41,776,671	9,815,120	3,130,141	626,741	970,485	1,033,403	10,100
31	Depreciation & Amortization	PAGE 10	35,000,905	25,992,647	5,863,400	1,967,295	370,171	261,698	540,068	5,625
32	Taxes Other Than Income	PAGE 10	11,225,394	8,218,894	1,885,497	685,765	129,521	99,194	204,621	1,902
33	Investment Tax Credit	PAGE 10	(5,077)	(3,718)	(848)	(316)	(59)	(42)	(93)	(1)
34	State Income Taxes	PAGES 11	840,234	(61,523)	516,135	112,391	34,798	130,309	107,910	214
35	Federal Income Taxes	PAGES 11	(1,954,368)	(5,397,140)	1,875,361	230,335	123,735	706,977	506,254	109
36	TOTAL OPERATING EXPENSE		102,469,750	70,525,831	19,954,665	6,125,611	1,284,908	2,168,622	2,392,164	17,950
37										
38	NET OPERATING INCOME	PAGE 10	40,100,187	14,493,315	14,961,780	3,804,561	1,015,481	3,047,590	2,769,189	8,271
39	Less: Interest on Customers' Deposits	PAGE 10	262,957	238,808	24,149	0	0	0	0	0
40	Plus: AFUDC	PAGE 10	3,001,310	2,197,939	501,351	186,865	34,981	24,678	54,997	500
41	NET OPERATING INCOME FOR RETURN	PAGE 10	42,838,540	16,452,446	15,438,982	3,991,426	1,050,461	3,072,268	2,824,186	8,770
42										
43	RATE OF RETURN	PAGE 12	4.67%	2.56%	9.47%	5.78%	7.76%	36.63%	13.37%	4.96%
44	RELATIVE RATE OF RETURN	PAGE 12	1.000	0.549	2.030	1.239	1.664	7.847	2.865	1.062
45										

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
SUMMARY OF RESULTS									
1	DEVELOPMENT OF RATE BASE								
2	Gas Plant in Service	PAGE 2	184,195	12,523,123					
3	Plus: CWIP	PAGE 2	4,785	360,479					
4	Less: Depreciation and Amortization Reserve	PAGE 3	55,745	3,449,594					
5	Less: Contributions In Aid of Construction	PAGE 3	228	6,395					
6	NET GAS PLANT IN SERVICE	PAGE 3	133,007	9,427,614					
7									
8	PLUS: ADDITIONS TO RATE BASE								
9	Allowance for Working Capital	PAGE 4	3,906	394,090					
10									
11	LESS: DEDUCTIONS TO RATE BASE								
12	Accumulated Deferred Income Taxes	PAGE 4	22,769	1,548,054					
13									
14	TOTAL RATE BASE	PAGE 4	114,144	8,273,650					
15									
16									
17	DEVELOPMENT OF RETURN								
18	GAS OPERATING REVENUE								
19	Sales Revenue - Base Revenue	PAGE 5	46,672	5,810,997					
20	Sales Revenue - Gas Cost Revenue	PAGE 5	50,069	0					
21	Unprotected Excess ADIT Refund	PAGE 5	(1,739)	(647,148)					
22	Minimum Margin Agree Rev & Special Contracts	PAGE 5	31	2,100					
23	Other Operating Revenues	PAGE 5	49	5,251					
24	TOTAL GAS OPERATING REVENUES		95,081	5,171,199					
25									
26	Less: Cost of Gas	PAGE 6	50,069	0					
27	Gross Margin		45,013	5,171,199					
28									
29	LESS OPERATING EXPENSES:								
30	Operation & Maintenance	PAGES 6-9	7,877	962,608					
31	Depreciation & Amortization	PAGE 10	3,984	257,714					
32	Taxes Other Than Income	PAGE 10	1,358	97,836					
33	Investment Tax Credit	PAGE 10	(1)	(41)					
34	State Income Taxes	PAGES 11	1,041	129,268					
35	Federal Income Taxes	PAGES 11	5,277	701,700					
36	TOTAL OPERATING EXPENSE		19,536	2,149,086					
37									
38	NET OPERATING INCOME	PAGE 10	25,477	3,022,113					
39	Less: Interest on Customers' Deposits	PAGE 10	0	0					
40	Plus: AFUDC	PAGE 10	358	24,320					
41	NET OPERATING INCOME FOR RETURN	PAGE 10	25,835	3,046,434					
42									
43	RATE OF RETURN	PAGE 12	22.63%	36.82%					
44	RELATIVE RATE OF RETURN	PAGE 12	4.849	7.889					
45									

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		TOTAL	Residential	Small General	Medium General	Large General	Interruptible	Firm Transportation	Sales for
ALLOC		COMPANY	Service	Service	Service	Service	Service	Service	Resale
		(1)-1	Rate 301	Rate 302	Rate 352	Rate 303	Rates 304 & 314	Rate 313	Rate 310
			(2)	(3)	(4)	(5)	(6)	(7)	(8)
DEVELOPMENT OF RATE BASE									
1	GAS PLANT IN SERVICE								
2									
3	INTANGIBLE PLANT	PLANT	27,104,691	19,849,484	4,527,676	1,687,569	315,910	222,865	4,514
4									
5	LOCAL STORAGE PLANT	DEMSTOR	66,186,730	43,813,350	15,057,408	5,911,481	1,393,984	0	10,508
6									
7	TRANSMISSION PLANT	DEMTRAN	369,786,759	230,466,681	83,456,318	32,466,664	8,405,405	0	14,935,690
8									
9	DISTRIBUTION PLANT								
10	374-375 - Land & Rights and Structures & Improve	DEMDIST	11,715,648	7,301,685	2,644,077	1,028,614	266,301	0	473,195
11	376-MAINS								
12	Above 2 Inches - Demand	DEMDISTM	110,852,882	64,372,222	23,310,392	9,068,345	2,347,735	7,566,822	4,171,725
13	Above 2 Inches - Customer	CUST376A	104,066,687	40,250,436	18,511,071	34,319,818	3,114,951	3,079,726	4,669,911
14	2 Inches and Below	CUST376B	355,303,424	322,673,433	32,629,991	0	0	0	0
15	TOTAL ACCOUNT 376		570,222,992	427,296,091	74,451,454	43,388,163	5,462,686	10,646,548	8,841,635
16	378-Meas & Regulation Station - General	DEMDIST	21,326,186	13,291,377	4,813,058	1,872,404	484,753	0	861,365
17	379-Meas & Regulation Station - City Gate	DEMDIST	5,560,307	3,465,417	1,254,893	488,186	126,388	0	224,581
18	380-Services	CUST_380	326,828,953	278,588,996	44,599,104	2,532,072	274,625	371,327	458,600
19	381 thru 385-Meters and Regulators	CUST_38185	69,790,468	51,454,512	13,977,427	2,724,454	452,515	483,713	672,401
20	TOTAL DISTRIBUTION PLANT		1,005,444,554	781,398,078	141,740,013	52,033,894	7,067,269	11,501,587	11,531,778
21									
22	GENERAL PLANT	LABOR	76,931,443	56,249,491	13,377,458	4,122,134	829,964	982,865	1,355,083
23									
24	TOTAL GAS PLANT IN SERVICE		1,545,454,176	1,131,777,084	258,158,874	96,221,741	18,012,531	12,707,318	28,319,222
25									
26									
27	CONSTRUCTION WORK IN PROGRESS								
28	Intangible (203)	INTANPLT	9,931,546	7,273,134	1,659,005	618,349	115,754	81,661	181,988
29	Other Storage	STORPLT	80,321	53,170	18,273	7,174	1,692	0	0
30	Transmission	TRANPLT	8,707,295	5,426,753	1,965,129	764,486	197,920	0	351,688
31	Distribution	DISTPLT	12,946,467	10,061,563	1,825,096	670,007	91,001	148,099	148,487
32	General	GENPLT	10,606,342	7,754,974	1,844,316	568,308	114,425	135,505	186,822
33	TOTAL CWIP		42,271,971	30,569,595	7,311,819	2,628,325	520,792	365,265	868,985
34									
35	TOTAL GAS PLANT IN SERVICE INCL CWIP		1,587,726,147	1,162,346,678	265,470,693	98,850,065	18,533,322	13,072,582	29,188,207
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
DEVELOPMENT OF RATE BASE									
1	GAS PLANT IN SERVICE								
2									
3	INTANGIBLE PLANT	PLANT	3,230	219,635					
4									
5	LOCAL STORAGE PLANT	DEMSTOR	0	0					
6									
7	TRANSMISSION PLANT	DEMTRAN	0	0					
8									
9	DISTRIBUTION PLANT								
10	374-375 - Land & Rights and Structures & Improve	DEMDIST	0	0					
11	376-MAINS								
12	Above 2 Inches - Demand	DEMDISTM	20,284	7,546,538					
13	Above 2 Inches - Customer	CUST376A	120,774	2,958,952					
14	2 Inches and Below	CUST376B	0	0					
15	TOTAL ACCOUNT 376		141,058	10,505,490					
16	378-Meas & Regulation Station - General	DEMDIST	0	0					
17	379-Meas & Regulation Station - City Gate	DEMDIST	0	0					
18	380-Services	CUST_380	12,771	358,556					
19	381 thru 385-Meters and Regulators	CUST_38185	16,963	466,750					
20	TOTAL DISTRIBUTION PLANT		170,792	11,330,795					
21									
22	GENERAL PLANT	LABOR	10,172	972,693					
23									
24	TOTAL GAS PLANT IN SERVICE		184,195	12,523,123					
25									
26									
27	CONSTRUCTION WORK IN PROGRESS								
28	Intangible (203)	INTANPLT	1,184	80,477					
29	Other Storage	STORPLT	0	0					
30	Transmission	TRANPLT	0	0					
31	Distribution	DISTPLT	2,199	145,899					
32	General	GENPLT	1,402	134,103					
33	TOTAL CWIP		4,785	360,479					
34									
35	TOTAL GAS PLANT IN SERVICE INCL CWIP		188,980	12,883,602					
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

TOTAL
COMPANY
(1)-1

Residential
Service
Rate 301
(2)

Small General
Service
Rate 302
(3)

Medium General
Service
Rate 352
(4)

Large General
Service
Rate 303
(5)

Interruptible
Service
Rates 304 & 314
(6)

Firm Transportation
Service
Rate 313
(7)

Sales for
Resale
Rate 310
(8)

DEVELOPMENT OF RATE BASE CONTINUED

1 LESS:

2

3 DEPRECIATION & AMORTIZATION RESERVE

4

5 INTANGIBLE PLANT RESERVE INTANPLT 14,977,550 10,968,457 2,501,910 932,519 174,566 123,151 274,452 2,495

6

7 LOCAL STORAGE PLANT RESERVE STORPLT 13,498,899 8,935,809 3,070,985 1,205,657 284,305 0 0 2,143

8

9 TRANSMISSION PLANT RESERVE TRANPLT 28,244,833 17,603,369 6,374,511 2,479,849 642,017 0 1,140,809 4,277

10

11 DISTRIBUTION PLANT RESERVE

15 374-375 - Land & Rights and Structures & Improve PLT_37475 459,689 286,497 103,746 40,360 10,449 0 18,567 70

12 376 - Mains PLT_376 131,448,943 98,501,149 17,162,698 10,001,926 1,259,269 2,454,263 2,038,191 31,447

12 378 & 379 - Meas & Regulation Station PLT_37879 8,359,953 5,210,275 1,886,739 733,990 190,025 0 337,659 1,266

13 380 - Services PLT_380 244,368,199 208,299,450 33,346,503 1,893,217 205,336 277,639 342,893 3,162

14 381 thru 385 - Meters and Regulators PLT_38185 30,140,888 22,222,013 6,036,527 1,176,629 195,431 208,904 290,395 10,989

16 TOTAL DISTRIBUTION PLANT 414,777,673 334,519,384 58,536,213 13,846,121 1,860,510 2,940,807 3,027,705 46,934

17

18 GENERAL PLANT RESERVE GENPLT 34,548,048 25,260,284 6,007,492 1,851,150 372,717 441,381 608,535 6,489

19

20 TOTAL DEPRECIATION RESERVE 506,047,002 397,287,303 76,491,111 20,315,297 3,334,115 3,505,339 5,051,500 62,338

21

22 CONTRIBUTIONS IN AID OF CONSTRUCTION PLT_380 5,828,754 4,968,430 795,392 45,158 4,898 6,622 8,179 75

23

24 TOTAL NET PLANT IN SERVICE 1,075,850,391 760,090,945 188,184,190 78,489,611 15,194,310 9,560,621 24,128,528 202,186

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
DEVELOPMENT OF RATE BASE CONTINUED									
1	LESS:								
2									
3	DEPRECIATION & AMORTIZATION RESERVE								
4									
5	INTANGIBLE PLANT RESERVE	INTANPLT	1,785	121,366					
6									
7	LOCAL STORAGE PLANT RESERVE	STORPLT	0	0					
8									
9	TRANSMISSION PLANT RESERVE	TRANPLT	0	0					
10									
11	DISTRIBUTION PLANT RESERVE								
15	374-375 - Land & Rights and Structures & Improve	PLT_37475	0	0					
12	376 - Mains	PLT_376	32,517	2,421,747					
12	378 & 379 - Meas & Regulation Station	PLT_37879	0	0					
13	380 - Services	PLT_380	9,549	268,090					
14	381 thru 385 - Meters and Regulators	PLT_38185	7,326	201,578					
16	TOTAL DISTRIBUTION PLANT		49,392	2,891,415					
17									
18	GENERAL PLANT RESERVE	GENPLT	4,568	436,813					
19									
20	TOTAL DEPRECIATION RESERVE		55,745	3,449,594					
21									
22	CONTRIBUTIONS IN AID OF CONSTRUCTION	PLT_380	228	6,395					
23									
24	TOTAL NET PLANT IN SERVICE		133,007	9,427,614					
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		TOTAL	Residential	Small General	Medium General	Large General	Interruptible	Firm Transportation	Sales for
ALLOC		COMPANY	Service	Service	Service	Service	Service	Service	Resale
		(1)-1	Rate 301	Rate 302	Rate 352	Rate 303	Rates 304 & 314	Rate 313	Rate 310
			(2)	(3)	(4)	(5)	(6)	(7)	(8)
DEVELOPMENT OF RATE BASE CONTINUED									
1	ADDITIONS AND DEDUCTIONS TO PLANT IN SERVICE								
2									
3	LESS: UNAMORTIZED INVESTMENT TAX CREDIT PLANT	0	0	0	0	0	0	0	0
4									
5	PLUS: ALLOWANCE FOR WORKING CAPITAL								
6	Requirement for Lead Lag	EXPOOM	9,935,993	7,236,287	1,700,112	542,183	108,560	168,101	1,749
7	Cash Working Funds	PLANT	(555,056)	(406,482)	(92,719)	(34,558)	(6,469)	(4,564)	(92)
8	Materials and Supplies	PLANT	168,196	123,174	28,096	10,472	1,960	1,383	28
9	Gas Inventories	ENESTOR	8,763,271	5,493,717	2,180,663	835,220	252,337	0	1,333
10	Deferred Debits	PLANT	11,530,731	8,444,260	1,926,140	717,916	134,393	94,810	1,921
11	Prepaid Insurance	PLANT	144,537	105,848	24,144	8,999	1,685	1,188	24
12	Pension and OPEB	LABOR	19,545,529	14,290,984	3,398,734	1,047,287	210,864	249,711	3,671
13	Fleets and Overheads	PLANT	127,993	93,732	21,380	7,969	1,492	1,052	21
14	Accounts Payable applicable to CWIP	CWIP	(9,557,776)	(6,911,846)	(1,653,217)	(594,269)	(117,752)	(82,587)	(1,626)
15	Accounts Payable applicable to Materials & Supplies	LABOR	(21,305)	(15,578)	(3,705)	(1,142)	(230)	(272)	(4)
16	Customer Deposits	CUSTDEP	(4,382,623)	(3,980,136)	(402,487)	0	0	0	0
17	Interest on Customer Deposits	CUSTDEP	(313,114)	(284,358)	(28,755)	0	0	0	0
18	Accrued Vacation	LABOR	(2,412,940)	(1,764,255)	(419,581)	(129,290)	(26,032)	(30,827)	(453)
19	TOTAL ALLOWANCE FOR WORKING CAPITAL		32,973,435	22,425,350	6,678,805	2,410,787	560,807	397,996	6,572
20									
21	DEDUCT								
22	LESS: ACCUMULATED DEFERRED INCOME TAX PLANT		191,042,334	139,905,369	31,912,479	11,894,514	2,226,631	1,570,823	31,820
23									
24									
25	TOTAL RATE BASE		917,781,491	642,610,926	162,950,516	69,005,884	13,528,487	8,387,793	176,939
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible	Interruptible						
ALLOC		Sales Service	Transportation						
		Rate 304	Rate 314	(11)	(12)	(13)	(14)	(15)	(16)
(9)-2			(10)						
DEVELOPMENT OF RATE BASE CONTINUED									
1	ADDITIONS AND DEDUCTIONS TO PLANT IN SERVICE								
2									
3	LESS: UNAMORTIZED INVESTMENT TAX CREDIT PLANT	0	0						
4									
5	PLUS: ALLOWANCE FOR WORKING CAPITAL								
6	Requirement for Lead Lag EXPOOM	1,364	166,737						
7	Cash Working Funds PLANT	(66)	(4,498)						
8	Materials and Supplies PLANT	20	1,363						
9	Gas Inventories ENESTOR	0	0						
10	Deferred Debits PLANT	1,374	93,436						
11	Prepaid Insurance PLANT	17	1,171						
12	Pension and OPEB LABOR	2,584	247,126						
13	Fleets and Overheads PLANT	15	1,037						
14	Accounts Payable applicable to CWIP CWIP	(1,082)	(81,505)						
15	Accounts Payable applicable to Materials & Supplies LABOR	(3)	(269)						
16	Customer Deposits CUSTDEP	0	0						
17	Interest on Customer Deposits CUSTDEP	0	0						
18	Accrued Vacation LABOR	(319)	(30,508)						
19	TOTAL ALLOWANCE FOR WORKING CAPITAL	3,906	394,090						
20									
21	DEDUCT								
22	LESS: ACCUMULATED DEFERRED INCOME TAX PLANT	22,769	1,548,054						
23									
24									
25	TOTAL RATE BASE	114,144	8,273,650						
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28									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
OPERATING REVENUES									
1 GAS OPERATING REVENUES									
2									
3 SALES OF GAS REVENUE									
4 Base Sales Revenue (Includes IM Rev)		150,271,383	89,404,673	36,888,924	10,714,751	2,336,139	5,857,669	5,042,452	26,773
5 Gas Cost Revenue	EGASCOST	61,472,261	35,432,842	16,295,472	6,102,937	2,242,315	50,069	1,327,594	21,031
6 SALES OF GAS REVENUE		211,743,643	124,837,515	53,184,397	16,817,689	4,578,455	5,907,738	6,370,046	47,805
7									
8 Unprotected Excess ADIT Refund	EXADITREF	(9,333,186)	(5,466,685)	(2,195,895)	(822,401)	(54,605)	(648,888)	(144,065)	(648)
9 Minimum Margin Agreement Revenue	REVMMA	252,305	0	0	0	13,505	0	238,800	0
10 Special Contract Transportation	PLANT	259,159	189,789	43,291	16,136	3,021	2,131	4,749	43
11									
12 TOTAL SALES REVENUE		202,921,922	119,560,619	51,031,793	16,011,423	4,540,375	5,260,981	6,469,530	47,200
13									
14 OTHER OPERATING REVENUES									
15 487-Discounts Earn/Lost	EXP_904	816,982	657,563	136,261	5,543	0	1,967	15,647	0
16 488-Miscellaneous Service Revenue	DISTPLT	260,828	202,707	36,770	13,498	1,833	2,984	2,992	45
17 493-Rent from Gas Properties	PLANT	42,467	31,099	7,094	2,644	495	349	778	7
18 TOTAL OTHER OPERATING REV		1,120,276	891,369	180,124	21,686	2,328	5,300	19,417	52
19									
20 TOTAL GAS OPERATING REVENUE		204,042,198	120,451,988	51,211,917	16,033,109	4,542,703	5,266,281	6,488,947	47,252
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
OPERATING REVENUES									
1	GAS OPERATING REVENUES								
2									
3	SALES OF GAS REVENUE								
4	Base Sales Revenue (Includes IM Rev)		46,672	5,810,997					
5	Gas Cost Revenue	EGASCOST	50,069	0					
6	SALES OF GAS REVENUE		96,741	5,810,997					
7									
8	Unprotected Excess ADIT Refund	EXADITREF	(1,739)	(647,148)					
9	Minimum Margin Agreement Revenue	REVMMA	0	0					
10	Special Contract Transportation	PLANT	31	2,100					
11									
12	TOTAL SALES REVENUE		95,032	5,165,949					
13									
14	OTHER OPERATING REVENUES								
15	487-Discounts Earn/Lost	EXP_904	0	1,967					
16	488-Miscellaneous Service Revenue	DISTPLT	44	2,939					
17	493-Rent from Gas Properties	PLANT	5	344					
18	TOTAL OTHER OPERATING REV		49	5,251					
19									
20	TOTAL GAS OPERATING REVENUE		95,081	5,171,199					
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

Exhibit PMN-5-COS
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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
OPERATING EXPENSES									
1 OPERATION AND MAINTENANCE EXPENSES									
2									
3 804-Natural Gas City Gate Purchase Expense	EGASCOST	61,472,261	35,432,842	16,295,473	6,102,937	2,242,315	50,069	1,327,594	21,031
4									
5 OTHER PURCHASED GAS EXPENSE									
6 735-Gas Misc Production Operation Exp	ESALES	79,895	30,901	14,211	5,322	1,897	22,548	5,006	7
7 807-Gas Purchased Expenses	ESALES	121,277	46,907	21,572	8,079	2,880	34,228	7,599	11
8 TOTAL OTHER PURCHASED GAS EXPENSE		201,172	77,808	35,784	13,402	4,778	56,776	12,605	19
9									
10 OTHER STORAGE EXPENSE									
11 840-Operation Supv & Eng	STORPLT	(15,658)	(10,365)	(3,562)	(1,399)	(330)	0	0	(2)
12 843-Maint Other Storage Equip	STORPLT	45,090	29,848	10,258	4,027	950	0	0	7
13 TOTAL OTHER STORAGE EXPENSE		29,432	19,483	6,696	2,629	620	0	0	5
14									
15 LNG TERMINALING AND PROCESSING EXPENSES									
16 844-Operation Supv & Eng Exp	STORPLT	45,671	30,233	10,390	4,079	962	0	0	7
17 846-Operation Other LNG Expenses	STORPLT	503,884	333,554	114,633	45,004	10,612	0	0	80
18 TOTAL LNG TERMINALING AND PROCESSING EXPENSES		549,555	363,787	125,023	49,084	11,574	0	0	87
19									
20									
21 TRANSMISSION EXPENSE									
22 OPERATION									
23 851-System Control & Load Dispatch	TRANPLT	142,369	88,731	32,131	12,500	3,236	0	5,750	22
24 853-Compressor Station Labor & Exp	TRANPLT	166,533	103,790	37,584	14,621	3,785	0	6,726	25
25 856-Mains Expenses	DEMTRANM	39,990	23,222	8,409	3,271	847	2,730	1,505	6
26 859-Other Expenses-Trans	TRANPLT	15,246	9,502	3,441	1,339	347	0	616	2
27 TOTAL OPERATION		364,138	225,245	81,565	31,731	8,215	2,730	14,597	55
28 MAINTENANCE									
29 861-Maintenance Supv & Eng-Tran	TRANPLT	27,400	17,077	6,184	2,406	623	0	1,107	4
30 862-Maint Struct & Improve-Tran	TRANPLT	11,226	6,996	2,533	986	255	0	453	2
31 863-Transm-Maint of Mains	DEMTRANM	2,574,623	1,495,082	541,397	210,618	54,527	175,744	96,891	363
32 864-Maint Compressor Sta Eq-Tran	TRANPLT	88,046	54,874	19,871	7,730	2,001	0	3,556	13
33 865-Maint of M & R Station Eq-Tran	TRANPLT	15,133	9,431	3,415	1,329	344	0	611	2
34 TOTAL MAINTENANCE		2,716,427	1,583,461	573,401	223,068	57,751	175,744	102,618	385
35 TOTAL TRANSMISSION EXPENSE		3,080,565	1,808,706	654,966	254,799	65,966	178,474	117,215	439
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
OPERATING EXPENSES									
1	OPERATION AND MAINTENANCE EXPENSES								
2									
3	804-Natural Gas City Gate Purchase Expense EGASCOST	50,069	0						
4									
5	OTHER PURCHASED GAS EXPENSE								
6	735-Gas Misc Production Operation Exp ESALES	60	22,488						
7	807-Gas Purchased Expenses ESALES	92	34,136						
8	TOTAL OTHER PURCHASED GAS EXPENSE	152	56,624						
9									
10	OTHER STORAGE EXPENSE								
11	840-Operation Supv & Eng STORPLT	0	0						
12	843-Maint Other Storage Equip STORPLT	0	0						
13	TOTAL OTHER STORAGE EXPENSE	0	0						
14									
15	LNG TERMINALING AND PROCESSING EXPENSES								
16	844-Operation Supv & Eng Exp STORPLT	0	0						
17	846-Operation Other LNG Expenses STORPLT	0	0						
18	TOTAL LNG TERMINALING AND PROCESSING EXPENSES	0	0						
19									
20									
21	TRANSMISSION EXPENSE								
22	OPERATION								
23	851-System Control & Load Dispatch TRANPLT	0	0						
24	853-Compressor Station Labor & Exp TRANPLT	0	0						
25	856-Mains Expenses DEMTRANM	7	2,722						
26	859-Other Expenses-Trans TRANPLT	0	0						
27	TOTAL OPERATION	7	2,722						
28	MAINTENANCE								
29	861-Maintenance Supv & Eng-Tran TRANPLT	0	0						
30	862-Maint Struct & Improve-Tran TRANPLT	0	0						
31	863-Transm-Maint of Mains DEMTRANM	471	175,273						
32	864-Maint Compressor Sta Eq-Tran TRANPLT	0	0						
33	865-Maint of M & R Station Eq-Tran TRANPLT	0	0						
34	TOTAL MAINTENANCE	471	175,273						
35	TOTAL TRANSMISSION EXPENSE	478	177,995						
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

Exhibit PMN-5-COS
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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
OPERATING EXPENSES CONTINUED									
1 OTHER OPERATION AND MAINT. EXP. CONTINUED									
2									
3 DISTRIBUTION EXPENSE									
4 OPERATION									
5 870-Distribution Sys Ops-Supv/Eng	TLABDO	41,908	30,328	7,773	2,321	445	287	744	10
6 871-Distribution Load Dispatching	DEMAVG	97,124	37,565	17,276	6,470	2,307	27,411	6,086	9
7 874-Mains and Services	PLT_37680	3,489,421	2,745,806	463,092	178,624	22,317	42,858	36,177	547
8 875-Measuring and Reg Stations-Ge	PLT_37879	32,750	20,411	7,391	2,875	744	0	1,323	5
9 878-Meter and House Regulator Exp	PLT_38185	429,911	316,961	86,101	16,783	2,788	2,980	4,142	157
10 879-Customer Installation Expense	PLT_37879	258,169	160,902	58,266	22,667	5,868	0	10,427	39
11 880-Gas Distribution-Other Expense	EXP_8719	883,027	680,389	128,954	46,340	6,652	9,614	10,921	157
12 TOTAL OPERATION EXPENSE		5,232,311	3,992,363	768,853	276,080	41,122	83,149	69,819	924
13 MAINTENANCE									
14 885-Maint Dist Sys Fac- Supv/Engr	TLABDM	140,497	100,895	24,329	9,382	1,651	1,440	2,767	34
15 887-Maintenance of Mains	PLT_376	1,204,743	902,773	157,298	91,669	11,541	22,494	18,680	288
16 889-Maint-Meas/Reg Stn Equip-Gas	PLT_37879	384,635	239,721	86,807	33,770	8,743	0	15,535	58
17 890-Maint-Meas/Reg Stn Eq-Indus	PLT_37879	7,442	4,638	1,680	653	169	0	301	1
18 891-Maint M&R Equip City Gate	PLT_37879	115	71	26	10	3	0	5	0
19 892-Maintenance of Services	PLT_380	562,167	479,191	76,713	4,355	472	639	789	7
20 893-Maint - Meters and House Reg	PLT_38185	184,031	135,681	36,857	7,184	1,193	1,276	1,773	67
21 894-Maint-Other Distribution Equip	PLT_37879	(2,867)	(1,787)	(647)	(252)	(65)	0	(116)	(0)
22 TOTAL MAINTENANCE EXPENSE		2,480,763	1,861,183	383,063	146,772	23,707	25,848	39,734	456
23 TOTAL DISTRIBUTION EXPENSE		7,713,073	5,853,546	1,151,917	422,852	64,829	108,997	109,553	1,380
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

(14)

(15)

(16)

OPERATING EXPENSES CONTINUED

1 OTHER OPERATION AND MAINT. EXP. CONTINUED

2

3 DISTRIBUTION EXPENSE

4 OPERATION

5 870-Distribution Sys Ops-Supv/Eng TLABDO 7 280

6 871-Distribution Load Dispatching DEMAVG 73 27,338

7 874-Mains and Services PLT_37680 598 42,260

8 875-Measuring and Reg Stations-Ge PLT_37879 0 0

9 878-Meter and House Regulator Exp PLT_38185 104 2,875

10 879-Customer Installation Expense PLT_37879 0 0

11 880-Gas Distribution-Other Expense EXP_8719 147 9,466

12 TOTAL OPERATION EXPENSE 930 82,219

13 MAINTENANCE

14 885-Maint Dist Sys Fac- Supv/Engr TLABDM 25 1,415

15 887-Maintenance of Mains PLT_376 298 22,196

16 889-Maint-Meas/Reg Stn Equip-Gas PLT_37879 0 0

17 890-Maint-Meas/Reg Stn Eq-Indus PLT_37879 0 0

18 891-Maint M&R Equip City Gate PLT_37879 0 0

19 892-Maintenance of Services PLT_380 22 617

20 893-Maint - Meters and House Reg PLT_38185 45 1,231

21 894-Maint-Other Distribution Equip PLT_37879 0 0

22 TOTAL MAINTENANCE EXPENSE 390 25,458

23 TOTAL DISTRIBUTION EXPENSE 1,320 107,677

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
OPERATING EXPENSES CONTINUED									
1 OTHER OPERATION AND MAINT. EXP. CONTINUED									
2									
3 CUSTOMER ACCOUNTS EXPENSE									
4 901-Supervision-Cust Accts EXP_9024		2,823	2,462	328	12	1	3	18	0
5 902-Meter Reading Expense CUST_902		7,076	6,011	734	186	40	43	59	2
6 903-Cust Records and Collection Exp									
7 Customer Records Exp CUST_903		1,240,599	1,122,306	113,492	3,637	330	326	495	13
8 Customer Collections Exp EXP_904		193,302	155,582	32,240	1,312	0	465	3,702	0
9 Total 903-Cust Records & Collections		1,433,901	1,277,888	145,732	4,949	330	792	4,197	13
10 903-Cust Collecting-Local Uncollectible Accts (904) UNCOLL		411,354	331,086	68,608	2,791	0	991	7,879	0
11 905-Miscellaneous Customer Accounts Exp EXP_9024		679	592	79	3	0	1	4	0
12 TOTAL CUSTOMER SERVICE EXPENSE		1,855,833	1,618,039	215,480	7,941	371	1,829	12,158	15
13									
14 CUSTOMER SERVICE & INFO EXP									
15 908-Cust Asst Expense CUST_910		1,318	851	178	46	16	186	42	0
16 909-Misc Advertising Expenses CUST_909		134,377	86,769	18,098	4,673	1,614	18,980	4,237	7
17 910-Misc Cust Serv/Inform Exp CUST_910		1,743	1,126	235	61	21	246	55	0
18 910.1-Exp-Rs Reg Prod/Svces-CstAccts CUST_910		(3,214)	(2,075)	(433)	(112)	(39)	(454)	(101)	(0)
19 TOTAL CUST SERV & INFO LABOR EXPENSE		134,224	86,670	18,077	4,668	1,612	18,959	4,232	7
20									
21 SALES EXPENSE									
22 912-Demonstrating & Selling Expense CUST_912		268,603	173,440	36,175	9,341	3,225	37,939	8,469	14
23 913-Advertising Expense CUST_913		46,492	30,020	6,261	1,617	558	6,567	1,466	2
24 916-Miscellaneous Sales Expense CUST_916		21,225	13,705	2,859	738	255	2,998	669	1
25 TOTAL SALES EXPENSE		336,320	217,166	45,295	11,695	4,039	47,504	10,604	17
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

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(16)

OPERATING EXPENSES CONTINUED

1 OTHER OPERATION AND MAINT. EXP. CONTINUED

2

3 CUSTOMER ACCOUNTS EXPENSE

4 901-Supervision-Cust Accts EXP_9024 0 3

5 902-Meter Reading Expense CUST_902 2 42

6 903-Cust Records and Collection Exp

7 Customer Records Exp CUST_903 13 314

8 Customer Collections Exp EXP_904 0 465

9 Total 903-Cust Records & Collections 13 779

10 903-Cust Collecting-Local Uncollectible Accts (904) UNCOLL 0 991

11 905-Miscellaneous Customer Accounts Exp EXP_9024 0 1

12 TOTAL CUSTOMER SERVICE EXPENSE 14 1,815

13

14 CUSTOMER SERVICE & INFO EXP

15 908-Cust Asst Expense CUST_910 1 186

16 909-Misc Advertising Expenses CUST_909 52 18,929

17 910-Misc Cust Serv/Inform Exp CUST_910 1 246

18 910.1-Exp-Rs Reg Prod/Svces-CstAccts CUST_910 (1) (453)

19 TOTAL CUST SERV & INFO LABOR EXPENSE 51 18,907

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21 SALES EXPENSE

22 912-Demonstrating & Selling Expense CUST_912 103 37,836

23 913-Advertising Expense CUST_913 18 6,549

24 916-Miscellaneous Sales Expense CUST_916 8 2,990

25 TOTAL SALES EXPENSE 129 47,375

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

TOTAL
COMPANY
(1)-1

Residential
Service
Rate 301
(2)

Small General
Service
Rate 302
(3)

Medium General
Service
Rate 352
(4)

Large General
Service
Rate 303
(5)

Interruptible
Service
Rates 304 & 314
(6)

Firm Transportation
Service
Rate 313
(7)

Sales for
Resale
Rate 310
(8)

OPERATING EXPENSES CONTINUED

1 OTHER OPERATION AND MAINT. EXP. CONTINUED

2

3 ADMINISTRATIVE & GENERAL EXPENSE

4 OPERATION

5 920-A & G Salaries LABORP 20,993,950 15,350,067 3,650,591 1,124,861 226,486 268,212 369,789 3,943

6 921-Office Supplies and Expenses LABORP 4,285,665 3,133,534 745,225 229,627 46,234 54,752 75,488 805

7 922-Admin Exp Transfer - CREDIT LABORP 291 213 51 16 3 4 5 0

8 923-Outside Services Employed LABORP 3,243,751 2,371,721 564,049 173,801 34,994 41,441 57,136 609

9 924-Property Insurance PLANT 165,633 121,297 27,668 10,312 1,930 1,362 3,035 28

10 925-Injuries and Damages LABORP 632,130 462,192 109,920 33,870 6,820 8,076 11,134 119

11 926-Employee Pensions and Benefits LABORP 7,725,365 5,648,526 1,343,347 413,927 83,342 98,697 136,075 1,451

12 928-Regulatory Commission Expenses REVCLAIM 2,603,164 1,856,319 458,078 172,381 32,012 36,696 47,218 460

14 930-Misc General Expenses LABORP 1,549,192 1,132,717 269,386 83,006 16,713 19,792 27,288 291

15 931-Rents LABORP 2,230,306 1,630,724 387,823 119,500 24,061 28,494 39,285 419

16 TOTAL OPERATION EXPENSE 43,429,449 31,707,310 7,556,137 2,361,302 472,596 557,525 766,453 8,125

17 MAINTENANCE

18 932&935-Maintenance of General Plant GENPLT 33,038 24,156 5,745 1,770 356 422 582 6

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20 TOTAL ADMINISTRATIVE & GENERAL EXPENSE 43,462,487 31,731,467 7,561,882 2,363,072 472,953 557,947 767,035 8,131

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24 COST OF GAS 61,472,261 35,432,842 16,295,473 6,102,937 2,242,315 50,069 1,327,594 21,031

25 OTHER OPERATION AND MAINTENANCE EXPENSE

26 TOTAL OTHER OPERATION EXPENSE 52,087,344 38,278,022 8,842,653 2,754,504 543,977 768,472 890,469 9,246

27 TOTAL OTHER MAINTENANCE EXPENSE 5,275,318 3,498,649 972,467 375,637 82,764 202,013 142,934 854

28 TOTAL OTHER OPER. & MAINT. EXP. 57,362,662 41,776,671 9,815,120 3,130,141 626,741 970,485 1,033,403 10,100

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30 TOTAL GAS OPERATION & MAINTENANCE EXPENSE 118,834,923 77,209,513 26,110,592 9,233,078 2,869,056 1,020,554 2,360,997 31,131

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

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(16)

OPERATING EXPENSES CONTINUED

1 OTHER OPERATION AND MAINT. EXP. CONTINUED

2

3 ADMINISTRATIVE & GENERAL EXPENSE

4 OPERATION

5 920-A & G Salaries LABORP 2,776 265,436

6 921-Office Supplies and Expenses LABORP 567 54,186

7 922-Admin Exp Transfer - CREDIT LABORP 0 4

8 923-Outside Services Employed LABORP 429 41,012

9 924-Property Insurance PLANT 20 1,342

10 925-Injuries and Damages LABORP 84 7,992

11 926-Employee Pensions and Benefits LABORP 1,022 97,675

12 928-Regulatory Commission Expenses REVCLAIM 331 36,364

14 930-Misc General Expenses LABORP 205 19,587

15 931-Rents LABORP 295 28,199

16 TOTAL OPERATION EXPENSE 5,727 551,798

17 MAINTENANCE

18 932&935-Maintenance of General Plant GENPLT 4 418

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20 TOTAL ADMINISTRATIVE & GENERAL EXPENSE 5,732 552,216

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24 COST OF GAS 50,069 0

25 OTHER OPERATION AND MAINTENANCE EXPENSE

26 TOTAL OTHER OPERATION EXPENSE 7,012 761,460

27 TOTAL OTHER MAINTENANCE EXPENSE 865 201,148

28 TOTAL OTHER OPER. & MAINT. EXP. 7,877 962,608

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30 TOTAL GAS OPERATION & MAINTENANCE EXPENSE 57,946 962,608

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		TOTAL	Residential	Small General	Medium General	Large General	Interruptible	Firm Transportation	Sales for
ALLOC		COMPANY	Service	Service	Service	Service	Service	Service	Resale
		(1)-1	Rate 301	Rate 302	Rate 352	Rate 303	Rates 304 & 314	Rate 313	Rate 310
			(2)	(3)	(4)	(5)	(6)	(7)	(8)
OPERATING EXPENSES CONTINUED									
1	DEPRECIATION EXPENSE								
2	Intangible Plant Expense	INTANPLT	3,190,884	2,336,769	533,018	198,668	37,190	26,237	58,470
3									531
4	Other Storage Plant Expense	STORPLT	2,296,680	1,520,324	522,492	205,128	48,371	0	365
5								0	
6	Transmission Plant Expense	TRANPLT	5,341,625	3,329,126	1,205,539	468,986	121,417	0	809
7								215,748	
8	Distribution Plant Expense								
9	374 & 375 - Land Rights & Structures and Improvements	PLT_37475	102,745	64,035	23,188	9,021	2,335	0	16
10	376 - Mains	PLT_376	9,016,949	6,756,843	1,177,303	686,098	86,382	168,354	2,157
11	378 & 379 - M&R Equipment	PLT_37879	756,866	471,711	170,815	66,452	17,204	0	115
12	380-Services	PLT_380	8,627,427	7,354,019	1,177,299	66,840	7,249	9,802	112
13	381-385 - Meters, House Regulators, & Install	PLT_38185	2,584,235	1,905,282	517,563	100,882	16,756	17,911	942
14	TOTAL DISTRIBUTION PLANT EXPENSE		21,088,222	16,551,890	3,066,168	929,293	129,926	196,067	3,341
15								211,537	
16	General Plant Expense	GENPLT	3,083,494	2,254,539	536,183	165,219	33,266	39,394	579
17	TOTAL DEPRECIATION EXPENSE		35,000,905	25,992,647	5,863,400	1,967,295	370,171	261,698	5,625
18								540,068	
19	OTHER OPERATING EXPENSES								
20									
21	TAXES OTHER THAN INCOME TAXES								
22	Property Taxes	PLANT	6,657,411	4,875,399	1,112,081	414,498	77,593	54,740	1,109
23	Franchise Taxes	PLANT	3,060,633	2,241,383	511,260	190,559	35,672	25,166	510
24	Payroll Taxes	LABOR	1,514,050	1,107,018	263,275	81,126	16,334	19,343	284
25	Other Taxes	PLANT	(6,699)	(4,906)	(1,119)	(417)	(78)	(55)	(1)
26	TOTAL TAXES OTHER THAN INCOME TAXES		11,225,394	8,218,894	1,885,497	685,765	129,521	99,194	1,902
27								204,621	
28	INVESTMENT TAX CREDIT ADJUSTMENTS	PLANT	(5,077)	(3,718)	(848)	(316)	(59)	(42)	(1)
29								(93)	
30	STATE INCOME TAXES		840,234	(61,523)	516,135	112,391	34,798	130,309	214
31								107,910	
32	FEDERAL INCOME TAXES		(1,954,368)	(5,397,140)	1,875,361	230,335	123,735	706,977	109
33								506,254	
34	TOTAL OPERATING EXPENSES		102,469,750	70,525,831	19,954,665	6,125,611	1,284,908	2,168,622	17,950
35								2,392,164	
36	NET OPERATING INCOME		40,100,187	14,493,315	14,961,780	3,804,561	1,015,481	3,047,590	8,271
37								2,769,189	
38	Less: Interest on Customer Deposits	CUSTDEP	262,957	238,808	24,149	0	0	0	0
39	Plus: AFUDC	PLANT	3,001,310	2,197,939	501,351	186,865	34,981	24,678	500
40								54,997	
41	NET OPERATING INCOME FOR RETURN		42,838,540	16,452,446	15,438,982	3,991,426	1,050,461	3,072,268	8,770
42								2,824,186	
43									
44									
45									

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
OPERATING EXPENSES CONTINUED									
1	DEPRECIATION EXPENSE								
2	Intangible Plant Expense	INTANPLT	380	25,856					
3									
4	Other Storage Plant Expense	STORPLT	0	0					
5									
6	Transmission Plant Expense	TRANPLT	0	0					
7									
8	Distribution Plant Expense								
9	374 & 375 - Land Rights & Structures and Improvements	PLT_37475	0	0					
10	376 - Mains	PLT_376	2,231	166,124					
11	378 & 379 - M&R Equipment	PLT_37879	0	0					
12	380-Services	PLT_380	337	9,465					
13	381-385 - Meters, House Regulators, & Install	PLT_38185	628	17,283					
14	TOTAL DISTRIBUTION PLANT EXPENSE		3,196	192,872					
15									
16	General Plant Expense	GENPLT	408	38,987					
17	TOTAL DEPRECIATION EXPENSE		3,984	257,714					
18									
19									
20	OTHER OPERATING EXPENSES								
21									
22	TAXES OTHER THAN INCOME TAXES								
23	Property Taxes	PLANT	793	53,946					
24	Franchise Taxes	PLANT	365	24,801					
25	Payroll Taxes	LABOR	200	19,143					
26	Other Taxes	PLANT	(1)	(54)					
27	TOTAL TAXES OTHER THAN INCOME TAXES		1,358	97,836					
28									
29	INVESTMENT TAX CREDIT ADJUSTMENTS	PLANT	(1)	(41)					
30									
31	STATE INCOME TAXES		1,041	129,268					
32									
33	FEDERAL INCOME TAXES		5,277	701,700					
34									
35	TOTAL OPERATING EXPENSES		19,536	2,149,086					
36									
37	NET OPERATING INCOME		25,477	3,022,113					
38									
39	Less: Interest on Customer Deposits	CUSTDEP	0	0					
40	Plus: AFUDC	PLANT	358	24,320					
41									
42	NET OPERATING INCOME FOR RETURN		25,835	3,046,434					
43									
44									
45									

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		TOTAL	Residential	Small General	Medium General	Large General	Interruptible	Firm Transportation	Sales for
ALLOC		COMPANY	Service	Service	Service	Service	Service	Service	Resale
		(1)-1	Rate 301	Rate 302	Rate 352	Rate 303	Rates 304 & 314	Rate 313	Rate 310
			(2)	(3)	(4)	(5)	(6)	(7)	(8)
INCOME TAXES									
1	STATE AND FEDERAL TAX CALCULATION								
2									
3	Operating Revenue	204,042,198	120,451,988	51,211,917	16,033,109	4,542,703	5,266,281	6,488,947	47,252
4	Less: Cost of Gas	61,472,261	35,432,842	16,295,473	6,102,937	2,242,315	50,069	1,327,594	21,031
5	Gross Margin	142,569,937	85,019,147	34,916,445	9,930,172	2,300,388	5,216,212	5,161,353	26,220
6									
7	Less: Operating Expenses								
8	Operation & Maintenance	57,362,662	41,776,671	9,815,120	3,130,141	626,741	970,485	1,033,403	10,100
9	Depreciation & Amortization	35,000,905	25,992,647	5,863,400	1,967,295	370,171	261,698	540,068	5,625
10	Taxes Other Than Income	11,225,394	8,218,894	1,885,497	685,765	129,521	99,194	204,621	1,902
11	Operating Income Before Taxes	38,980,976	9,030,935	17,352,428	4,146,971	1,173,955	3,884,835	3,383,260	8,593
12									
13	Less: Interest on Debt	PLANT	17,435,095	12,768,183	2,912,428	1,085,529	203,209	143,358	2,904
14									
15	Less:								
16	Interest on Customer Deposits	CUSTDEP	262,957	238,808	24,149	0	0	0	0
17	AFUDC	PLANT	(3,001,310)	(2,197,939)	(501,351)	(186,865)	(34,981)	(24,678)	(500)
18	Net Operating Income Before Taxes		24,284,234	(1,778,117)	14,917,201	3,248,307	3,766,155	3,118,772	6,189
19									
20	State Income Taxes at Effective State Tax Rate 3.46%		840,234	(61,523)	516,135	112,391	34,798	130,309	214
21									
22	Federal Taxable Income Base		23,443,999	(1,716,594)	14,401,066	3,135,916	970,929	3,635,846	5,975
23									
24	Federal Income Tax Before Adjustments at Federal Tax Rate 21.00%		4,923,240	(360,485)	3,024,224	658,542	203,895	763,528	1,255
25									
26	Amortization of Excess Deferred FIT	PLANT	(6,877,608)	(5,036,655)	(1,148,863)	(428,208)	(80,160)	(56,550)	(1,146)
27									
28	Federal Income Taxes		(1,954,368)	(5,397,140)	1,875,361	230,335	123,735	706,977	109
29									
30									
31									
32									
33	TAX FACTORS								
34	PNG Composite State Income Tax Rate		0.0346000						
35	Gross Revenue Factor		0.0150000						
36	Uncollectibles Factor		0.0019320						
37	Commission Fee Factor		0.0042500						
38	Federal Tax Rate		0.2100000						
39	Effective State Tax Rate		0.0338671						
40	1-Incremental Tax Rate		0.7465112						
41	Incremental Tax Rate		0.2534888						
42	Effective Incremental Federal Tax Rate		0.1984397						
43	Factor for Taxable Basis		1.3395646						
44			1.0001690						
45									

PIEDMONT NATURAL GAS COMPANY, INC.
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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
INCOME TAXES									
1	STATE AND FEDERAL TAX CALCULATION								
2									
3	Operating Revenue		95,081	5,171,199					
4	Less: Cost of Gas		50,069	0					
5	Gross Margin		45,013	5,171,199					
6									
7	Less: Operating Expenses								
8	Operation & Maintenance		7,877	962,608					
9	Depreciation & Amortization		3,984	257,714					
10	Taxes Other Than Income		1,358	97,836					
11	Operating Income Before Taxes		31,794	3,853,041					
12									
13	Less: Interest on Debt	PLANT	2,078	141,280					
14									
15	Less:								
16	Interest on Customer Deposits	CUSTDEP	0	0					
17	AFUDC	PLANT	(358)	(24,320)					
18	Net Operating Income Before Taxes		30,074	3,736,081					
19									
20	State Income Taxes at Effective State Tax Rate 3.46%		1,041	129,268					
21									
22	Federal Taxable Income Base		29,033	3,606,812					
23									
24	Federal Income Tax Before Adjustments at Federal Tax Rate 21.00%		6,097	757,431					
25									
26	Amortization of Excess Deferred FIT	PLANT	(820)	(55,731)					
27									
28	Federal Income Taxes		5,277	701,700					
29									
30									
31									
32									
33	TAX FACTORS								
34	PNG Composite State Income Tax Rate								
35	Gross Revenue Factor								
36	Uncollectibles Factor								
37	Commission Fee Factor								
38	Federal Tax Rate								
39	Effective State Tax Rate								
40	1-Incremental Tax Rate								
41	Incremental Tax Rate								
42	Effective Incremental Federal Tax Rate								
43	Factor for Taxable Basis								
44									
45									

PIEDMONT NATURAL GAS COMPANY, INC.
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12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
REVENUE REQUIREMENTS									
1									
2									
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7									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

(14)

(15)

(16)

REVENUE REQUIREMENTS

PRESENT RATES

Rate Base	114,144	8,273,650
Net Operating Income (Present Rates)	25,835	3,046,434
Rate of Return (Present Rates)	22.63%	36.82%
Relative Rate of Return	4.849	7.889
Base Gas Sales Revenue (Present Rates)	46,672	5,810,997
Annual Booked Therm Sales	257,216	95,694,681
Gas Base Sales Revenue \$/Therm (Present Rates)	\$0.1815	\$0.0607

CLAIMED RATE OF RETURN

Claimed Rate of Return	7.10%	7.10%
Return Required for Claimed Rate of Return	8,106	587,528
Gas Base Sales Revenue Required at Claimed ROR	22,923	2,517,135
Base Sales Revenue Deficiency	(23,749)	(3,293,862)
Percent Increase Required	-50.89%	-56.68%
Annual Booked Therm Sales	257,216	95,694,681
Gas Base Sales Revenue \$/Therm (Claimed Rates)	\$0.0891	\$0.0263
Revenue Deficiency \$/Therm	-\$0.0923	-\$0.0344

PROPOSED REVENUES

Proposed Base Gas Sales Revenues	55,368	6,552,589
Base Sales Revenue Deficiency	8,696	741,592
Percent Increase Required at Proposed Rates	18.63%	12.76%
Proposed Rate of Return	28.32%	43.51%
Return Required for Proposed Revenue	32,326	3,600,040
Annual Booked Therm Sales	257,216	95,694,681
Gas Base Sales Revenue \$/Therm (Proposed Rates)	\$0.2153	\$0.0685
Revenue Deficiency \$/Therm	\$0.0338	\$0.0077
Proposed Rate of Return	28.32%	43.51%
Relative Rate of Return	3.977	6.110

Average Use per Customer (therms)	128,608	1,952,953
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PIEDMONT NATURAL GAS COMPANY, INC.
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Rate Base - 13-mth average attrition period ended 12/31/2021		TOTAL	Residential	Small General	Medium General	Large General	Interruptible	Firm Transportation	Sales for
ALLOC		COMPANY	Service	Service	Service	Service	Service	Service	Resale
		(1)-1	Rate 301	Rate 302	Rate 352	Rate 303	Rates 304 & 314	Rate 313	Rate 310
			(2)	(3)	(4)	(5)	(6)	(7)	(8)
DEVELOPMENT OF LABOR ALLOCATION FACTORS									
1	OPERATION AND MAINTENANCE LABOR EXP.								
2									
3									
4									
5	OTHER PURCHASED GAS LABOR EXPENSE								
6	735-Gas Misc Production Operation Exp ESALES	6,254	2,419	1,112	417	149	1,765	392	1
7	807-Gas Purchased Expenses ESALES	193,672	74,907	34,450	12,902	4,600	54,659	12,135	18
8	TOTAL PRODUCTION OPERATION LABOR EXPENSE	199,926	77,326	35,562	13,319	4,748	56,425	12,527	18
9									
10	OTHER STORAGE LABOR EXPENSE								
11	840-Operation Supv & Eng STORPLT	(252)	(167)	(57)	(23)	(5)	0	0	(0)
12	843-Maint Other Storage Equip STORPLT	96	63	22	9	2	0	0	0
13	TOTAL OTHER STORAGE LABOR EXPENSE	(157)	(104)	(36)	(14)	(3)	0	0	(0)
14									
15	LNG TERMINALING AND PROCESSING LABOR EXPENSES								
16	844-Operation Supv & Eng Exp STORPLT	211,816	140,215	48,188	18,918	4,461	0	0	34
17	846-Operation Other LNG Expenses STORPLT	666,807	441,403	151,698	59,556	14,044	0	0	106
18	TOTAL LNG TERMINALING AND PROCESS LABOR EXPENSES	878,623	581,618	199,886	78,474	18,505	0	0	139
19									
20									
21	TRANSMISSION LABOR EXPENSE								
22	OPERATION								
23	851-System Control & Load Dispatch TRANPLT	323,182	201,421	72,938	28,375	7,346	0	13,053	49
24	853-Compressor Station Labor & Exp TRANPLT	78,240	48,762	17,658	6,869	1,778	0	3,160	12
25	856-Mains Expenses TRANPLT	366	228	83	32	8	0	15	0
26	859-Other Expenses-Trans TRANPLT	37,646	23,463	8,496	3,305	856	0	1,521	6
27	TOTAL OPERATION	439,434	273,874	99,175	38,582	9,989	0	17,749	67
28	MAINTENANCE								
29	861-Maintenance Supv & Eng-Tran TRANPLT	136,979	85,371	30,915	12,027	3,114	0	5,533	21
30	862-Maint Struct & Improve-Tran TRANPLT	37,044	23,087	8,360	3,252	842	0	1,496	6
31	863-Transm-Maint of Mains TRANPLT	189,429	118,060	42,752	16,632	4,306	0	7,651	29
32	864-Maint Compressor Sta Eq-Tran TRANPLT	44,724	27,874	10,094	3,927	1,017	0	1,806	7
33	865-Maint Of M & R Station Eq-Tran TRANPLT	31,319	19,519	7,068	2,750	712	0	1,265	5
34	TOTAL MAINTENANCE	439,495	273,912	99,189	38,587	9,990	0	17,751	67
35	TOTAL TRANSMISSION LABOR EXPENSE	878,929	547,785	198,363	77,168	19,978	0	35,500	133
36									
37									
38									
39									
40									
41									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
DEVELOPMENT OF LABOR ALLOCATION FACTORS									
1	OPERATION AND MAINTENANCE LABOR EXP.								
2									
3									
4									
5	OTHER PURCHASED GAS LABOR EXPENSE								
6	735-Gas Misc Production Operation Exp	ESALES	5	1,760					
7	807-Gas Purchased Expenses	ESALES	147	54,513					
8	TOTAL PRODUCTION OPERATION LABOR EXPENSE		151	56,273					
9									
10	OTHER STORAGE LABOR EXPENSE								
11	840-Operation Supv & Eng	STORPLT	0	0					
12	843-Maint Other Storage Equip	STORPLT	0	0					
13	TOTAL OTHER STORAGE LABOR EXPENSE		0	0					
14									
15	LNG TERMINALING AND PROCESSING LABOR EXPENSES								
16	844-Operation Supv & Eng Exp	STORPLT	0	0					
17	846-Operation Other LNG Expenses	STORPLT	0	0					
18	TOTAL LNG TERMINALING AND PROCESS LABOR EXPENSES		0	0					
19									
20									
21	TRANSMISSION LABOR EXPENSE								
22	OPERATION								
23	851-System Control & Load Dispatch	TRANPLT	0	0					
24	853-Compressor Station Labor & Exp	TRANPLT	0	0					
25	856-Mains Expenses	TRANPLT	0	0					
26	859-Other Expenses-Trans	TRANPLT	0	0					
27	TOTAL OPERATION		0	0					
28	MAINTENANCE								
29	861-Maintenance Supv & Eng-Tran	TRANPLT	0	0					
30	862-Maint Struct & Improve-Tran	TRANPLT	0	0					
31	863-Transm-Maint of Mains	TRANPLT	0	0					
32	864-Maint Compressor Sta Eq-Tran	TRANPLT	0	0					
33	865-Maint Of M & R Station Eq-Tran	TRANPLT	0	0					
34	TOTAL MAINTENANCE		0	0					
35	TOTAL TRANSMISSION LABOR EXPENSE		0	0					
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

		ALLOC	TOTAL COMPANY (1)-1	Service Rate 301 (2)	Service Rate 302 (3)	Service Rate 352 (4)	Service Rate 303 (5)	Service Rates 304 & 314 (6)	Service Rate 313 (7)	Resale Rate 310 (8)
DEVELOPMENT OF LABOR ALLOCATION FACTOR										
1	OPERATION AND MAINTENANCE LABOR EXP.									
2										
3	DISTRIBUTION LABOR EXPENSE									
4	OPERATION									
5	870-Distribution Sys Ops-Supv/Eng	LABDO	205,847	148,969	38,179	11,399	2,187	1,408	3,654	50
6	871-Distribution Load Dispatching	DEMAVG	31	12	6	2	1	9	2	0
7	874-Mains and Services	EXP_874	754,349	593,593	100,112	38,615	4,825	9,265	7,821	118
8	875-Measuring and Reg Stations-Ge	EXP_875	9,528	5,938	2,150	837	217	0	385	1
9	878-Meter and House Regulator Exp	EXP_878	2,105,743	1,552,504	421,732	82,203	13,653	14,595	20,288	768
10	879-Customer Installation Expense	EXP_879	1,243,850	775,219	280,722	109,208	28,273	0	50,239	188
11	880-Gas Distribution-Other Expense	EXP_880	1,059,217	816,147	154,684	55,586	7,980	11,532	13,100	188
12	TOTAL OPERATION EXPENSE		5,378,565	3,892,383	997,585	297,851	57,135	36,809	95,489	1,314
13	MAINTENANCE									
14	885-Maint Dist Sys Fac- Supv/Engr	LABDM	590,139	423,796	102,191	39,406	6,934	6,048	11,622	143
15	887-Maintenance of Mains	EXP_887	1,417,649	1,062,314	185,096	107,869	13,581	26,469	21,981	339
16	889-Maint-Meas/Reg Stn Equip-Gas	EXP_889	772,556	481,489	174,356	67,829	17,561	0	31,204	117
17	890-Maint-Meas/Reg Stn Eq-Indus	EXP_890	15,390	9,591	3,473	1,351	350	0	622	2
18	891-Maint M&R Equip City Gate	EXP_891	457	285	103	40	10	0	18	0
19	892-Maintenance of Services	EXP_892	111,635	95,158	15,234	865	94	127	157	1
20	893-Maint - Meters and House Reg	EXP_893	840,425	619,621	168,318	32,808	5,449	5,825	8,097	306
21	894-Maint-Other Distribution Equip	EXP_894	5,570	3,471	1,257	489	127	0	225	1
22	TOTAL MAINTENANCE EXPENSE		3,753,820	2,695,726	650,028	250,657	44,105	38,468	73,926	910
23	TOTAL DISTRIBUTION LABOR EXPENSE		9,132,385	6,588,108	1,647,613	548,508	101,240	75,277	169,414	2,225
24										
25										
26	CUSTOMER ACCOUNTS LABOR EXPENSE									
27	901-Supervision-Cust Accts	LABCA	20,684	17,907	2,454	125	12	30	156	1
28	902-Meter Reading Expense	EXP_902	167,484	142,272	17,363	4,405	955	1,027	1,407	54
29	903-Cust Records and Collections Exp									
30	Customer Records Exp	CUST_903	1,292,008	1,168,813	118,195	3,788	344	340	515	13
31	Customer Collections Exp	EXP_904	193,302	155,582	32,240	1,312	0	465	3,702	0
32	Total 903-Customer Records and Collections Exp		1,485,310	1,324,395	150,435	5,099	344	805	4,218	13
33	903-Cust Collecting-Local Uncollectible Accts (904)	EXP_904	588,250	473,464	98,112	3,991	0	1,417	11,267	0
34	905-Misc Customer Accts Expenses	EXP_9024	0	0	0	0	0	0	0	0
35	TOTAL CUSTOMER ACCTS LABOR EXP		2,261,728	1,958,039	268,363	13,620	1,311	3,279	17,047	68
36										
37	CUSTOMER SERVICE & INFO LABOR EXP									
38	908-Cust Asst Expense	EXP_910	0	0	0	0	0	0	0	0
39	909-Misc Advertising Expenses	EXP_909	0	0	0	0	0	0	0	0
40	910-Misc Cust Serv/Inform Exp	EXP_910	10,583	6,833	1,425	368	127	1,495	334	1
41	910.1-Exp-Rs Reg Prod/Svces-CstAccts	EXP_910	(153)	(99)	(21)	(5)	(2)	(22)	(5)	(0)
42	TOTAL CUST SERV & INFO LABOR EXPENSE		10,430	6,735	1,405	363	125	1,473	329	1

PIEDMONT NATURAL GAS COMPANY, INC.
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12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
DEVELOPMENT OF LABOR ALLOCATION FACTOR									
1	OPERATION AND MAINTENANCE LABOR EXP.								
2									
3	DISTRIBUTION LABOR EXPENSE								
4	OPERATION								
5	870-Distribution Sys Ops-Supv/Eng	LABDO	33	1,376					
6	871-Distribution Load Dispatching	DEMAVG	0	9					
7	874-Mains and Services	EXP_874	129	9,136					
8	875-Measuring and Reg Stations-Ge	EXP_875	0	0					
9	878-Meter and House Regulator Exp	EXP_878	512	14,083					
10	879-Customer Installation Expense	EXP_879	0	0					
11	880-Gas Distribution-Other Expense	EXP_880	177	11,355					
12	TOTAL OPERATION EXPENSE		851	35,959					
13	MAINTENANCE								
14	885-Maint Dist Sys Fac- Supv/Engr	LABDM	104	5,943					
15	887-Maintenance of Mains	EXP_887	351	26,118					
16	889-Maint-Meas/Reg Stn Equip-Gas	EXP_889	0	0					
17	890-Maint-Meas/Reg Stn Eq-Indus	EXP_890	0	0					
18	891-Maint M&R Equip City Gate	EXP_891	0	0					
19	892-Maintenance of Services	EXP_892	4	122					
20	893-Maint - Meters and House Reg	EXP_893	204	5,621					
21	894-Maint-Other Distribution Equip	EXP_894	0	0					
22	TOTAL MAINTENANCE EXPENSE		664	37,804					
23	TOTAL DISTRIBUTION LABOR EXPENSE		1,514	73,763					
24									
25									
26	CUSTOMER ACCOUNTS LABOR EXPENSE								
27	901-Supervision-Cust Accts	LABCA	0	30					
28	902-Meter Reading Expense	EXP_902	36	991					
29	903-Cust Records and Collections Exp								
30	Customer Records Exp	CUST_903	13	327					
31	Customer Collections Exp	EXP_904	0	465					
32	Total 903-Customer Records and Collections Exp		13	792					
33	903-Cust Collecting-Local Uncollectible Accts (904)	EXP_904	0	1,417					
34	905-Misc Customer Accts Expenses	EXP_9024	0	0					
35	TOTAL CUSTOMER ACCTS LABOR EXP		50	3,230					
36									
37	CUSTOMER SERVICE & INFO LABOR EXP								
38	908-Cust Asst Expense	EXP_910	0	0					
39	909-Misc Advertising Expenses	EXP_909	0	0					
40	910-Misc Cust Serv/Inform Exp	EXP_910	4	1,491					
41	910.1-Exp-Rs Reg Prod/Svces-CstAccts	EXP_910	(0)	(22)					
42	TOTAL CUST SERV & INFO LABOR EXPENSE		4	1,469					
43									
44									
45									

PIEDMONT NATURAL GAS COMPANY, INC.
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12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
DEVELOPMENT OF LABOR ALLOCATION FACTOR							
1 OPERATION AND MAINTENANCE LABOR EXP.							
2							
3 SALES LABOR EXPENSE							
4 912-Demonstrating & Selling Exp EXP_912	208,818	134,836	28,123	7,262	2,507	29,494	6,584
5 913-Advertising Expense EXP_913	273	176	37	10	3	39	9
6 916-Misc Sales Expenses EXP_916	476,855	307,911	64,222	16,583	5,726	67,353	15,035
7 TOTAL SALES LABOR EXPENSE	685,946	442,923	92,383	23,854	8,237	96,887	21,627
8							
9							
10 ADMINISTRATIVE & GENERAL LABOR EXP							
11 OPERATION							
12 920-A & G Salaries EXP_920	3,861,549	2,823,434	671,476	206,903	41,659	49,334	68,018
13 921-Office Supplies and Expenses EXP_921	190	139	33	10	2	2	3
14 922-Admin Exp Transfer - CREDIT EXP_922	40	30	7	2	0	1	1
15 923-Outside Services Employed EXP_923	767	561	133	41	8	10	14
16 924-Property Insurance EXP_924	0	0	0	0	0	0	0
17 925-Injuries and Damages EXP_925	3,704	2,708	644	198	40	47	65
18 926-Employee Pensions and Benefits EXP_926	2,249	1,644	391	121	24	29	40
19 928-Regulatory Commission Expenses EXP_928	2,387	1,702	420	158	29	34	43
20 930-Misc General Expenses EXP_930	668,279	488,623	116,206	35,807	7,210	8,538	11,771
21 931-Rents EXP_930	0	0	0	0	0	0	0
22 TOTAL OPERATION EXPENSE	4,539,165	3,318,841	789,310	243,240	48,973	57,994	79,955
23 MAINTENANCE							
24 932-Maintenance of General Plant EXP_932	14,288	10,447	2,485	766	154	183	252
25							
26 TOTAL ADMIN & GEN LABOR EXP	4,553,453	3,329,288	791,795	244,005	49,127	58,177	80,206
27							
28 TOTAL OPERATION EXCL PROD EXPENSE	14,193,638	10,474,245	2,448,049	695,961	144,269	196,442	232,196
29 TOTAL MAINTENANCE EXPENSE	4,207,699	2,980,148	751,723	290,018	54,251	38,651	91,929
30							
31 TOTAL OPERATION & MAINTENANCE LABOR EXP	18,601,263	13,531,719	3,235,335	999,297	203,268	291,517	336,651
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021		Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
ALLOC									
DEVELOPMENT OF LABOR ALLOCATION FACTOR									
1	OPERATION AND MAINTENANCE LABOR EXP.								
2									
3	SALES LABOR EXPENSE								
4	912-Demonstrating & Selling Exp	EXP_912	80	29,414					
5	913-Advertising Expense	EXP_913	0	39					
6	916-Misc Sales Expenses	EXP_916	183	67,171					
7	TOTAL SALES LABOR EXPENSE		263	96,624					
8									
9									
10	ADMINISTRATIVE & GENERAL LABOR EXP								
11	OPERATION								
12	920-A & G Salaries	EXP_920	511	48,823					
13	921-Office Supplies and Expenses	EXP_921	0	2					
14	922-Admin Exp Transfer - CREDIT	EXP_922	0	1					
15	923-Outside Services Employed	EXP_923	0	10					
16	924-Property Insurance	EXP_924	0	0					
17	925-Injuries and Damages	EXP_925	0	47					
18	926-Employee Pensions and Benefits	EXP_926	0	28					
19	928-Regulatory Commission Expenses	EXP_928	0	33					
20	930-Misc General Expenses	EXP_930	88	8,449					
21	931-Rents	EXP_930	0	0					
22	TOTAL OPERATION EXPENSE		600	57,394					
23	MAINTENANCE								
24	932-Maintenance of General Plant	EXP_932	2	181					
25									
26	TOTAL ADMIN & GEN LABOR EXP		602	57,575					
27									
28	TOTAL OPERATION EXCL PROD EXPENSE		1,768	194,675					
29	TOTAL MAINTENANCE EXPENSE		666	37,985					
30									
31	TOTAL OPERATION & MAINTENANCE LABOR EXP		2,584	288,933					
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Service Rate 301 (2)	Service Rate 302 (3)	Service Rate 352 (4)	Service Rate 303 (5)	Service Rates 304 & 314 (6)	Service Rate 313 (7)	Resale Rate 310 (8)	
ALLOCATION FACTOR TABLE										
1	CAPACITY RELATED									
2	-----									
3										
4	STORAGE									
5	LNG Storage - Remaining Design Day Sales Dem	DEMSTOR	3,276,046	2,168,630	745,297	292,601	68,998	0	0	520
6										
7										
8	TRANSMISSION									
9	Design Day Demands (Therms)	DEMTRAN	3,588,301	2,236,380	809,835	315,047	81,564	0	144,932	543
9	Design Day Demands (Therms)	DEMTRANM	3,851,183	2,236,380	809,835	315,047	81,564	262,882	144,932	543
11										
12	DISTRIBUTION									
13	Distribution Load Dispatching - Annual Sendout	DEMAVG	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514	95,951,898	21,303,108	31,451
14	Distribution Mains Above 2"	DEMDISTM	3,851,183	2,236,380	809,835	315,047	81,564	262,882	144,932	543
15	Distribution - Design Day Demands (Therms)	DEMDIST	3,588,301	2,236,380	809,835	315,047	81,564	0	144,932	543
16										
17										
18										
19	COMMODITY RELATED									
20	-----									
21	Annual Therms - Weather Normalized - Sendout	ESALES	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514	95,951,898	21,303,108	31,451
22										
23	Cost of Gas	EGASCOST	61,472,261	35,432,842	16,295,472	6,102,937	2,242,315	50,069	1,327,594	21,031
24										
25	3 Month Winter Sales (Therms) Dec to Feb	ENESTOR	114,016,580	71,477,294	28,372,023	10,866,829	3,283,086	0	0	17,348
26										
27										
28										
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

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ALLOCATION FACTOR TABLE

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CAPACITY RELATED

STORAGE

LNG Storage - Remaining Design Day Sales Dem	DEMSTOR	0	0
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TRANSMISSION

Design Day Demands (Therms)	DEMTRAN	0	0
Design Day Demands (Therms)	DEMTRANM	705	262,177

DISTRIBUTION

Distribution Load Dispatching - Annual Sendout	DEMAVG	257,216	95,694,681
Distribution Mains Above 2"	DEMDISTM	705	262,177
Distribution - Design Day Demands (Therms)	DEMDIST	0	0

COMMODITY RELATED

Annual Therms - Weather Normalized - Sendout	ESALES	257,216	95,694,681
Cost of Gas	EGASCOST	50,069	0
3 Month Winter Sales (Therms) Dec to Feb	ENESTOR	0	0

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

		TOTAL	Service	Service	Service	Service	Service	Service	Resale
ALLOC		COMPANY	Rate 301	Rate 302	Rate 352	Rate 303	Rates 304 & 314	Rate 313	Rate 310
		(1)-1	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ALLOCATION FACTOR TABLE CONTINUED									
1	CUSTOMER RELATED								
2	-----								
3	Acct 376 - Mains Above 2 Inches - Customer Related	CUST376A	20,680	7,999	3,679	6,820	619	612	928
4	Acct 376 - Mains <= 2 Inches - Customer Related	CUST376B	2,317,204	2,104,399	212,805	0	0	0	0
5									
6	Acct 380-Service Investment	CUST_380	300,055,366	255,767,191	40,945,578	2,324,647	252,128	340,908	421,032
7	Accts 381-385-Meters & Regulators Investment	CUST_38185	56,563,479	41,702,632	11,328,365	2,208,104	366,752	392,038	544,965
8									
9	Acct 902-Meter Reading Expense	CUST_902	206,443	175,367	21,401	5,430	1,178	1,266	1,735
10	Acct 903-Customer Records Exp	CUST_903	193,851	175,367	17,734	568	52	51	77
11	Acct 909-Cust Serv & Info Advertising Exp.	CUST_909	1.0000	0.6457	0.1347	0.0348	0.0120	0.1412	0.0315
12	Acct 910-Customer Assistance Expense	CUST_910	1.0000	0.6457	0.1347	0.0348	0.0120	0.1412	0.0315
13	Acct 912-Demonstrating and Selling	CUST_912	1.0000	0.6457	0.1347	0.0348	0.0120	0.1412	0.0315
14	Acct 913-Advertising Expense	CUST_913	1.0000	0.6457	0.1347	0.0348	0.0120	0.1412	0.0315
15	Acct 916-Miscellaneous Sales Expense	CUST_916	1.0000	0.6457	0.1347	0.0348	0.0120	0.1412	0.0315
16									
17	Average Annual Firm Customers (50%)	CUST	0.5000	0.4523	0.0457	0.0015	0.0001	0.0001	0.0002
18	Weather Normalized Annual Firm DT (50%)	ESALES	0.5000	0.1934	0.0889	0.0333	0.0119	0.1411	0.0313
19	Weighted Customers and Sales		1.0000	0.6457	0.1347	0.0348	0.0120	0	0.0315
20									
21	Customer Deposits	CUSTDEP	193,100	175,367	17,734	0	0	0	0
22									
23									
24									
25	Average Annual Number of Customers	CUST	193,851	175,367	17,734	568	52	51	77
26	Average Annual Number of Bills		193,851	175,367	17,734	568	52	51	77
27									
28									
29									
30									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

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ALLOCATION FACTOR TABLE CONTINUED

1	CUSTOMER RELATED							
2	-----							
3	Acct 376 - Mains Above 2 Inches - Customer Related	CUST376A	24	588				
4	Acct 376 - Mains <= 2 Inches - Customer Related	CUST376B	0	0				
5								
6	Acct 380-Service Investment	CUST_380	11,725	329,183				
7	Accts 381-385-Meters & Regulators Investment	CUST_38185	13,748	378,289				
8								
9	Acct 902-Meter Reading Expense	CUST_902	44	1,222				
10	Acct 903-Customer Records Exp	CUST_903	2	49				
11	Acct 909-Cust Serv & Info Advertising Exp.	CUST_909	0.0004	0.1409				
12	Acct 910-Customer Assistance Expense	CUST_910	0.0004	0.1409				
13	Acct 912-Demonstrating and Selling	CUST_912	0.0004	0.1409				
14	Acct 913-Advertising Expense	CUST_913	0.0004	0.1409				
15	Acct 916-Miscellaneous Sales Expense	CUST_916	0.0004	0.1409				
16								
17	Average Annual Firm Customers (50%)	CUST	0.0000	0.0001				
18	Weather Normalized Annual Firm DT (50%)	ESALES	0.0004	0.1407				
19	Weighted Customers and Sales		0.0004	0.1409				
20								
21	Customer Deposits	CUSTDEP	0	0				
22								
23								
24								
25	Average Annual Number of Customers	CUST	2	49				
26	Average Annual Number of Bills		2	49				
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

ALLOCATION FACTOR TABLE CONTINUED

TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
11,715,648	7,301,685	2,644,077	1,028,614	266,301	0	473,195	1,774
570,222,992	427,296,091	74,451,454	43,388,163	5,462,686	10,646,548	8,841,635	136,415
26,886,493	16,756,795	6,067,950	2,360,589	611,141	0	1,085,946	4,072
326,828,953	278,588,996	44,599,104	2,532,072	274,625	371,327	458,600	4,229
69,790,468	51,454,512	13,977,427	2,724,454	452,515	483,713	672,401	25,445
897,051,945	705,885,086	119,050,558	45,920,235	5,737,311	11,017,874	9,300,236	140,644
27,104,691	19,849,484	4,527,676	1,687,569	315,910	222,865	496,672	4,514
66,186,730	43,813,350	15,057,408	5,911,481	1,393,984	0	0	10,508
369,786,759	230,466,681	83,456,318	32,466,664	8,405,405	0	14,935,690	56,000
1,005,444,554	781,398,078	141,740,013	52,033,894	7,067,269	11,501,587	11,531,778	171,935
76,931,443	56,249,491	13,377,458	4,122,134	829,964	982,865	1,355,083	14,450
1,375,231,312	1,011,864,759	225,196,331	84,500,558	15,472,673	11,501,587	26,467,468	227,935
1,545,454,176	1,131,777,084	258,158,874	96,221,741	18,012,531	12,707,318	28,319,222	257,407
42,271,971	30,569,595	7,311,819	2,628,325	520,792	365,265	868,985	7,192

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

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(16)

ALLOCATION FACTOR TABLE CONTINUED

1	INTERNALLY DEVELOPED FACTORS								
2	-----								
3	Accts 374 & 375 - Land & Rights and Struc & Improv	PLT_37475	0	0					
4	Acct 376 - Mains	PLT_376	141,058	10,505,490					
5	Accts 378 & 379 - Meas & Regulation Station	PLT_37879	0	0					
6	Acct 380 - Services	PLT_380	12,771	358,556					
7	Accts 381 Thru 385 - Meters & Regulators	PLT_38185	16,963	466,750					
8									
9	Accts 376 & 380 - Mains and Services	PLT_37680	153,829	10,864,046					
10									
11	Total Intangible Plant	INTANPLT	3,230	219,635					
12	Total Local Storage Plant	STORPLT	0	0					
13	Total Transmission Plant	TRANPLT	0	0					
14	Total Distribution Plant	DISTPLT	170,792	11,330,795					
15	Total General Plant	GENPLT	10,172	972,693					
16									
17	Total Transmission Plant and Distribution Plant	TDPLT	170,792	11,330,795					
18									
19	Total Gas Plant in Service	PLANT	184,195	12,523,123					
20									
21	Total Construction Work in Progress	CWIP	4,785	360,479					
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
ALLOCATION FACTOR TABLE CONTINUED									
1	INTERNALLY DEVELOPED FACTORS CONT.								
2	-----								
3	Acct 874-Mains & Services Expense EXP_874	3,489,421	2,745,806	463,092	178,624	22,317	42,858	36,177	547
4	Acct 875-Measuring and Reg Stations-Ge EXP_875	32,750	20,411	7,391	2,875	744	0	1,323	5
5	Acct 878-Meter and House Regulator Expense EXP_878	429,911	316,961	86,101	16,783	2,788	2,980	4,142	157
6	Acct 879-Customer Installation Expense EXP_879	258,169	160,902	58,266	22,667	5,868	0	10,427	39
7	Acct 880-Gas Oper Distribution-Other Expense EXP_880	883,027	680,389	128,954	46,340	6,652	9,614	10,921	157
8	Acct 887-Dist Maintenance of Mains EXP_887	1,204,743	902,773	157,298	91,669	11,541	22,494	18,680	288
9	Acct 889-Dist Maint-Meas/Reg Stn Equip-Gas EXP_889	384,635	239,721	86,807	33,770	8,743	0	15,535	58
10	Acct 890-Dist Maint-Meas/Reg Stn Eq-Indus EXP_890	7,442	4,638	1,680	653	169	0	301	1
11	Acct 891-Dist Maint M&R Equip City Gate EXP_891	115	71	26	10	3	0	5	0
12	Acct 892-Dist Maintenance of Services EXP_892	562,167	479,191	76,713	4,355	472	639	789	7
13	Acct 893-Dist Maint - Meters and House Reg EXP_893	184,031	135,681	36,857	7,184	1,193	1,276	1,773	67
14	Acct 894-Dist Maint-Other Distribution Equip EXP_894	(2,867)	(1,787)	(647)	(252)	(65)	0	(116)	(0)
15	Acct 902-Meter Reading Expense EXP_902	7,076	6,011	734	186	40	43	59	2
16	Acct 903-Cust Records & Collect Excl Local Uncoll EXP_903	1,433,901	1,277,888	145,732	4,949	330	792	4,197	13
17	Acct 903-Cust Collecting-Local Uncollect Accts (904) EXP_904	411,354	331,086	68,608	2,791	0	991	7,879	0
18	Acct 909-Miscellaneous Advertising Expense EXP_909	134,377	86,769	18,098	4,673	1,614	18,980	4,237	7
19	Acct 910-Customer Assistance Expense EXP_910	(1,471)	(950)	(198)	(51)	(18)	(208)	(46)	(0)
20	Acct 912-Demonstrating & Selling Exp EXP_912	268,603	173,440	36,175	9,341	3,225	37,939	8,469	14
21	Acct 913-Advertising Expense EXP_913	46,492	30,020	6,261	1,617	558	6,567	1,466	2
22	Acct 916-Miscellaneous Sales EXP_916	21,225	13,705	2,859	738	255	2,998	669	1
23	Acct 920-A & G Salaries EXP_920	20,993,950	15,350,067	3,650,591	1,124,861	226,486	268,212	369,789	3,943
24	Acct 921-Office Supplies and Expenses EXP_921	4,285,665	3,133,534	745,225	229,627	46,234	54,752	75,488	805
25	Acct 922-Admin Exp Transfer - CREDIT EXP_922	291	213	51	16	3	4	5	0
26	Acct 923-Outside Services Employed EXP_923	3,243,751	2,371,721	564,049	173,801	34,994	41,441	57,136	609
27	Acct 924-Property Insurance EXP_924	165,633	121,297	27,668	10,312	1,930	1,362	3,035	28
28	Acct 925-Injuries and Damages EXP_925	632,130	462,192	109,920	33,870	6,820	8,076	11,134	119
29	Acct 926-Employee Pensions and Benefits EXP_926	7,725,365	5,648,526	1,343,347	413,927	83,342	98,697	136,075	1,451
30	Acct 928-Regulatory Commission Expenses EXP_928	2,603,164	1,856,319	458,078	172,381	32,012	36,696	47,218	460
31	Acct 930-Misc General Expenses EXP_930	1,549,192	1,132,717	269,386	83,006	16,713	19,792	27,288	291
32	Acct 932&935-Maintenance of General Plant Exp EXP_932	33,038	24,156	5,745	1,770	356	422	582	6
33	ACCT 874-879 Distribution Operation Expense EXP_8719	4,210,252	3,244,080	614,850	220,949	31,718	45,838	52,069	748
34	ACCT 874-880 Distribution Operation Expense EXP_8710	5,093,278	3,924,469	743,804	267,289	38,370	55,452	62,990	905
35	Accts 902-904 Customer Accounts Expense EXP_9024	1,852,331	1,614,985	215,073	7,926	370	1,826	12,135	15

PIEDMONT NATURAL GAS COMPANY, INC.
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12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

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ALLOCATION FACTOR TABLE CONTINUED

1 INTERNALLY DEVELOPED FACTORS CONT.

2	-----		
3	Acct 874-Mains & Services Expense EXP_874	598	42,260
4	Acct 875-Measuring and Reg Stations-Ge EXP_875	0	0
5	Acct 878-Meter and House Regulator Expense EXP_878	104	2,875
6	Acct 879-Customer Installation Expense EXP_879	0	0
7	Acct 880-Gas Oper Distribution-Other Expense EXP_880	147	9,466
8	Acct 887-Dist Maintenance of Mains EXP_887	298	22,196
9	Acct 889-Dist Maint-Meas/Reg Stn Equip-Gas EXP_889	0	0
10	Acct 890-Dist Maint-Meas/Reg Stn Eq-Indus EXP_890	0	0
11	Acct 891-Dist Maint M&R Equip City Gate EXP_891	0	0
12	Acct 892-Dist Maintenance of Services EXP_892	22	617
13	Acct 893-Dist Maint - Meters and House Reg EXP_893	45	1,231
14	Acct 894-Dist Maint-Other Distribution Equip EXP_894	0	0
15	Acct 902-Meter Reading Expense EXP_902	2	42
16	Acct 903-Cust Records & Collect Excl Local Uncoll EXP_903	13	779
17	Acct 903-Cust Collecting-Local Uncollect Accts (904) EXP_904	0	991
18	Acct 909-Miscellaneous Advertising Expense EXP_909	52	18,929
19	Acct 910-Customer Assistance Expense EXP_910	(1)	(207)
20	Acct 912-Demonstrating & Selling Exp EXP_912	103	37,836
21	Acct 913-Advertising Expense EXP_913	18	6,549
22	Acct 916-Miscellaneous Sales EXP_916	8	2,990
23	Acct 920-A & G Salaries EXP_920	2,776	265,436
24	Acct 921-Office Supplies and Expenses EXP_921	567	54,186
25	Acct 922-Admin Exp Transfer - CREDIT EXP_922	0	4
26	Acct 923-Outside Services Employed EXP_923	429	41,012
27	Acct 924-Property Insurance EXP_924	20	1,342
28	Acct 925-Injuries and Damages EXP_925	84	7,992
29	Acct 926-Employee Pensions and Benefits EXP_926	1,022	97,675
30	Acct 928-Regulatory Commission Expenses EXP_928	331	36,364
31	Acct 930-Misc General Expenses EXP_930	205	19,587
32	Acct 932&935-Maintenance of General Plant Exp EXP_932	4	418
33	ACCT 874-879 Distribution Operation Expense EXP_8719	703	45,135
34	ACCT 874-880 Distribution Operation Expense EXP_8710	850	54,601
35	Accts 902-904 Customer Accounts Expense EXP_9024	14	1,812

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Service Rate 301 (2)	Service Rate 302 (3)	Service Rate 352 (4)	Service Rate 303 (5)	Service Rates 304 & 314 (6)	Service Rate 313 (7)	Resale Rate 310 (8)	
ALLOCATION FACTOR TABLE CONTINUED										
1	INTERNALLY DEVELOPED FACTORS CONT.									
2	-----									
3	Total Other O&M Expense (Excludes Gas Costs)	EXPOOM	57,362,662	41,776,671	9,815,120	3,130,141	626,741	970,485	1,033,403	10,100
4										
5	Total Purchased Gas Labor Expense	TLABPROD	199,926	77,326	35,562	13,319	4,748	56,425	12,527	18
6	Total Other Storage Labor Expense	TLABSTOR	(157)	(104)	(36)	(14)	(3)	0	0	(0)
7										
8	Distribution Operation Labor Accts 874 - 880	LABDO	5,172,687	3,743,402	959,400	286,449	54,947	35,392	91,832	1,264
9	Distribution Maintenance Labor Accts 887 - 894	LABDM	3,163,681	2,271,930	547,837	211,251	37,171	32,420	62,304	767
10	Total Distribution Operation Labor Expense	TLABDO	5,378,565	3,892,383	997,585	297,851	57,135	36,809	95,489	1,314
11	Total Distribution Maintenance Labor Expense	TLABDM	3,753,820	2,695,726	650,028	250,657	44,105	38,468	73,926	910
12										
13	Customer Account Labor Accts 902 - 905	LABCA	2,241,044	1,940,131	265,909	13,496	1,299	3,249	16,892	67
14	Total Customer Accounts Labor Expense	TLABCA	2,261,728	1,958,039	268,363	13,620	1,311	3,279	17,047	68
15										
16	Customer Service & Info Labor Accts 910-912	LABCSI	10,430	6,735	1,405	363	125	1,473	329	1
17	Total Customer Service & Info Labor Expense	TLABCSI	10,430	6,735	1,405	363	125	1,473	329	1
18										
19	Sales Expense Labor Accts 912-916	LABSA	685,946	442,923	92,383	23,854	8,237	96,887	21,627	35
20	Total Sales Labor Expense	TLABSA	685,946	442,923	92,383	23,854	8,237	96,887	21,627	35
21										
22	Sum of Allocated Labor Expense Excl Prod & A&G	LABORP	13,847,884	10,125,104	2,407,978	741,973	149,393	176,916	243,918	2,601
23	Sum of Allocated Labor Expense Excl Prod	LABOR	18,401,337	13,454,392	3,199,772	985,979	198,520	235,093	324,124	3,456
24										
25	Revenue at Claimed Rate of Return	REVCLAIM	180,190,504	128,494,027	31,708,105	11,932,174	2,215,878	2,540,057	3,268,406	31,856
26	<u>Claimed Revenue</u>									
27	Rate 301 - Residential	REVRES	128,494,027	128,494,027	0	0	0	0	0	0
28	Rate 302 - Small General Service	REVSGS	31,708,105	0	31,708,105	0	0	0	0	0
29	Rate 352 - Medium General Service	REVMGS	11,932,174	0	0	11,932,174	0	0	0	0
30	Rate 303 - Large General Service	REVLGS	2,215,878	0	0	0	2,215,878	0	0	0
31	Rates 313 - Firm Transportation	REVFT	3,268,406	0	0	0	0	0	3,268,406	0
32	Rates 310 - Sales for Resale	REVSR	31,856	0	0	0	0	0	0	31,856
33	Rates 304 - Interruptible Sales Service	REVISS	22,923	0	0	0	0	22,923	0	0
34	Rates 314 - Interruptible Transportation	REVIT	2,517,135	0	0	0	0	2,517,135	0	0
35	<u>Plant</u>									
36	Rate 301 - Residential	PLTRES	1,131,777,084	1,131,777,084	0	0	0	0	0	0
37	Rate 302 - Small General Service	PLTSGS	258,158,874	0	258,158,874	0	0	0	0	0
38	Rate 352 - Medium General Service	PLTMGS	96,221,741	0	0	96,221,741	0	0	0	0
39	Rate 303 - Large General Service	PLTLGS	18,012,531	0	0	0	18,012,531	0	0	0
40	Rates 313 - Firm Transportation	PLTFT	28,319,222	0	0	0	0	0	28,319,222	0
41	Rates 310 - Sales for Resale	PLTSR	257,407	0	0	0	0	0	0	257,407
42	Rates 304 - Interruptible Sales Service	PLTISS	184,195	0	0	0	0	184,195	0	0
43	Rates 314 - Interruptible Transportation	PLTIT	12,523,123	0	0	0	0	12,523,123	0	0
44										
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

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ALLOCATION FACTOR TABLE CONTINUED

1	INTERNALLY DEVELOPED FACTORS CONT.								
2									
3	Total Other O&M Expense (Excludes Gas Costs)	EXPROOM	7,877	962,608					
4									
5	Total Purchased Gas Labor Expense	TLABPROD	151	56,273					
6	Total Other Storage Labor Expense	TLABSTOR	0	0					
7									
8	Distribution Operation Labor Accts 874 - 880	LABDO	818	34,574					
9	Distribution Maintenance Labor Accts 887 - 894	LABDM	559	31,861					
10	Total Distribution Operation Labor Expense	TLABDO	851	35,959					
11	Total Distribution Maintenance Labor Expense	TLABDM	664	37,804					
12									
13	Customer Account Labor Accts 902 - 905	LABCA	49	3,200					
14	Total Customer Accounts Labor Expense	TLABCA	50	3,230					
15									
16	Customer Service & Info Labor Accts 910-912	LABCSI	4	1,469					
17	Total Customer Service & Info Labor Expense	TLABCSI	4	1,469					
18									
19	Sales Expense Labor Accts 912-916	LABSA	263	96,624					
20	Total Sales Labor Expense	TLABSA	263	96,624					
21									
22	Sum of Allocated Labor Expense Excl Prod & A&G	LABORP	1,831	175,085					
23	Sum of Allocated Labor Expense Excl Prod	LABOR	2,433	232,660					
24									
25	Revenue at Claimed Rate of Return	REVCLAIM	22,923	2,517,135					
26	<u>Claimed Revenue</u>								
27	Rate 301 - Residential	REVRES	0	0					
28	Rate 302 - Small General Service	REVSGS	0	0					
29	Rate 352 - Medium General Service	REVMGS	0	0					
30	Rate 303 - Large General Service	REVLGS	0	0					
31	Rates 313 - Firm Transportation	REVFT	0	0					
32	Rates 310 - Sales for Resale	REVSR	0	0					
33	Rates 304 - Interruptible Sales Service	REVISS	22,923	0					
34	Rates 314 - Interruptible Transportation	REVIT	0	2,517,135					
35	<u>Plant</u>								
36	Rate 301 - Residential	PLTRES	0	0					
37	Rate 302 - Small General Service	PLTSGS	0	0					
38	Rate 352 - Medium General Service	PLTMGS	0	0					
39	Rate 303 - Large General Service	PLTLGS	0	0					
40	Rates 313 - Firm Transportation	PLTFT	0	0					
41	Rates 310 - Sales for Resale	PLTSR	0	0					
42	Rates 304 - Interruptible Sales Service	PLTISS	184,195	0					
43	Rates 314 - Interruptible Transportation	PLTIT	0	12,523,123					
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
ALLOCATION FACTOR TABLE CONTINUED									
1	PRESENT REVENUE FROM SALES INPUT								
2	-----								
3	Base Sales Revenues	114,418,353	68,020,492	27,918,496	8,499,034	1,857,143	4,348,615	3,757,838	16,734
4	Integrity Management Revenues	35,853,030	21,384,181	8,970,428	2,215,717	478,997	1,509,054	1,284,614	10,039
5	Total Base Margin	150,271,383	89,404,673	36,888,924	10,714,751	2,336,139	5,857,669	5,042,452	26,773
6	Gas Cost Revenues	61,472,261	35,432,842	16,295,472	6,102,937	2,242,315	50,069	1,327,594	21,031
7	Sales and Transportation Revenue	211,743,643	124,837,515	53,184,397	16,817,689	4,578,455	5,907,738	6,370,046	47,805
8	Minimum Margin Agreement Revenues	252,305	0	0	0	13,505	0	238,800	0
9	Unprotected Excess ADIT Refund	(9,333,186)	-5,466,685	-2,195,895	-822,401	-54,605	(648,888)	-144,065	-648
10	Special Contract (Other Operating Revenue)	259,159							
11	Total Sales & Transportation Revenue	202,921,922							
12									
13									
14	BILLING DETERMINANTS								
15	-----								
16	Claimed Rate of Return	7.101%	7.100%	7.100%	7.100%	7.100%	7.101%	7.100%	7.100%
17	Annual Therm Sales	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514	95,951,898	21,303,108	31,451
18	Proposed Base Rate Revenue	180,442,928	110,763,935	41,614,496	12,848,100	2,682,371	6,607,957	5,893,964	32,104
19	Total Average Annual Number of Customers	193,851	175,367	17,734	568	52	51	77	2
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

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ALLOCATION FACTOR TABLE CONTINUED

1 **PRESENT REVENUE FROM SALES INPUT**

2 -----

3 Base Sales Revenues	42,011	4,306,604						
4 Integrity Management Revenues	4,661	1,504,393						
5 Total Base Margin	46,672	5,810,997						
6 Gas Cost Revenues	50,069	0						
7 Sales and Transportation Revenue	96,741	5,810,997						
8 Minimum Margin Agreement Revenues	0	0						
9 Unprotected Excess ADIT Refund	-1,739	-647,148						
10 Special Contract (Other Operating Revenue)								
11 Total Sales & Transportation Revenue								

12

13 **BILLING DETERMINANTS**

14 -----

16 Claimed Rate of Return	7.100%	7.100%						
17 Annual Therm Sales	257,216	95,694,681						
18 Proposed Base Rate Revenue	55,368	6,552,589						
19 Total Average Annual Number of Customers	2	49						

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
RATIO TABLE									
1	CAPACITY RELATED								
2	-----								
3									
4	<u>STORAGE</u>								
5	LNG Storage - Remaining Design Day Sales Dem	DEMSTOR	1.00000	0.66197	0.22750	0.08932	0.02106	0.00000	0.00016
6									
7									
8	<u>TRANSMISSION</u>								
9	Design Day Demands (Therms)	DEMTRAN	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.00015
9	Design Day Demands (Therms)	DEMTRANM	1.00000	0.58070	0.21028	0.08181	0.02118	0.06826	0.00014
11									
12	<u>DISTRIBUTION</u>								
13	Distribution Load Dispatching - Annual Sendout	DEMAVG	1.00000	0.38678	0.17788	0.06662	0.02375	0.28223	0.00009
14	Distribution Mains Above 2"	DEMDISTM	1.00000	0.58070	0.21028	0.08181	0.02118	0.06826	0.00014
15	Distribution - Design Day Demands (Therms)	DEMDIST	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.00015
16									
17									
18									
19	COMMODITY RELATED								
20	-----								
21	Annual Therms - Weather Normalized - Sendout	ESALES	1.00000	0.38678	0.17788	0.06662	0.02375	0.28223	0.00009
22									
23	Cost of Gas	EGASCOST	1.00000	0.57640	0.26509	0.09928	0.03648	0.00081	0.00034
24									
25	3 Month Winter Sales (Therms) Dec to Feb	ENESTOR	1.00000	0.62690	0.24884	0.09531	0.02879	0.00000	0.00015
26									
27									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

(14)

(15)

(16)

RATIO TABLE

CAPACITY RELATED

STORAGE

LNG Storage - Remaining Design Day Sales Dem DEMSTOR 0.00000 0.00000

TRANSMISSION

Design Day Demands (Therms) DEMTRAN 0.00000 0.00000

Design Day Demands (Therms) DEMTRANM 0.00018 0.06808

DISTRIBUTION

Distribution Load Dispatching - Annual Sendout DEMAVG 0.00076 0.28147

Distribution Mains Above 2" DEMDISTM 0.00018 0.06808

Distribution - Design Day Demands (Therms) DEMDIST 0.00000 0.00000

COMMODITY RELATED

Annual Therms - Weather Normalized - Sendout ESALES 0.00076 0.28147

Cost of Gas EGASCOST 0.00081 0.00000

3 Month Winter Sales (Therms) Dec to Feb ENESTOR 0.00000 0.00000

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
RATIO TABLE CONTINUED									
1	CUSTOMER RELATED								
2	-----								
3	Acct 376 - Mains Above 2 Inches - Customer Related	CUST376A	1.00000	0.38678	0.17788	0.32979	0.02993	0.02959	0.04487
4	Acct 376 - Mains <= 2 Inches - Customer Related	CUST376B	1.00000	0.90816	0.09184	0.00000	0.00000	0.00000	0.00000
5									
6	Acct 380-Service Investment	CUST_380	1.00000	0.85240	0.13646	0.00775	0.00084	0.00114	0.00140
7	Accts 381-385-Meters & Regulators Investment	CUST_38185	1.00000	0.73727	0.20028	0.03904	0.00648	0.00693	0.00963
8									
9	Acct 902-Meter Reading Expense	CUST_902	1.00000	0.84947	0.10367	0.02630	0.00570	0.00613	0.00840
10	Acct 903-Customer Records Exp	CUST_903	1.00000	0.90465	0.09148	0.00293	0.00027	0.00026	0.00040
11	Acct 909-Cust Serv & Info Advertising Exp.	CUST_909	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.03153
12	Acct 910-Customer Assistance Expense	CUST_910	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.03153
13	Acct 912-Demonstrating and Selling	CUST_912	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.03153
14	Acct 913-Advertising Expense	CUST_913	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.03153
15	Acct 916-Miscellaneous Sales Expense	CUST_916	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.03153
16									
17	Average Annual Firm Customers (50%)	CUST							
18	Weather Normalized Annual Firm DT (50%)	ESALES							
19	Weighted Customers and Sales		1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.03153
20									
21	Customer Deposits	CUSTDEP	1.00000	0.90816	0.09184	0.00000	0.00000	0.00000	0.00000
22			0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
23									
24									
25	Average Annual Number of Customers	CUST	1.00000	0.90465	0.09148	0.00293	0.00027	0.00026	0.00040
26	Average Annual Number of Bills		1.00000	0.90465	0.09148	0.00293	0.00027	0.00026	0.00040
27									
29									
30									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

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(15)

(16)

RATIO TABLE CONTINUED

1	CUSTOMER RELATED								
2	-----								
3	Acct 376 - Mains Above 2 Inches - Customer Related	CUST376A	0.00116	0.02843					
4	Acct 376 - Mains <= 2 Inches - Customer Related	CUST376B	0.00000	0.00000					
5									
6	Acct 380-Service Investment	CUST_380	0.00004	0.00110					
7	Accts 381-385-Meters & Regulators Investment	CUST_38185	0.00024	0.00669					
8									
9	Acct 902-Meter Reading Expense	CUST_902	0.00022	0.00592					
10	Acct 903-Customer Records Exp	CUST_903	0.00001	0.00025					
11	Acct 909-Cust Serv & Info Advertising Exp.	CUST_909	0.00038	0.14086					
12	Acct 910-Customer Assistance Expense	CUST_910	0.00038	0.14086					
13	Acct 912-Demonstrating and Selling	CUST_912	0.00038	0.14086					
14	Acct 913-Advertising Expense	CUST_913	0.00038	0.14086					
15	Acct 916-Miscellaneous Sales Expense	CUST_916	0.00038	0.14086					
16									
17	Average Annual Firm Customers (50%)	CUST							
18	Weather Normalized Annual Firm DT (50%)	ESALES							
19	Weighted Customers and Sales		0.00038	0.14086					
20									
21	Customer Deposits	CUSTDEP	0.00000	0.00000					
22			0.00000	0.00000					
23									
24									
25	Average Annual Number of Customers	CUST	0.00001	0.00025					
26	Average Annual Number of Bills		0.00001	0.00025					
27									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

TOTAL
COMPANY
(1)-1

Residential
Service
Rate 301
(2)

Small General
Service
Rate 302
(3)

Medium General
Service
Rate 352
(4)

Large General
Service
Rate 303
(5)

Interruptible
Service
Rates 304 & 314
(6)

Firm Transportation
Service
Rate 313
(7)

Sales for
Resale
Rate 310
(8)

RATIO TABLE CONTINUED

2	----- INTERNALLY DEVELOPED FACTORS -----									
3	Accts 374 & 375 - Land & Rights and Struc & Improv	PLT_37475	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.04039	0.00015
4	Acct 376 - Mains	PLT_376	1.00000	0.74935	0.13057	0.07609	0.00958	0.01867	0.01551	0.00024
5	Accts 378 & 379 - Meas & Regulation Station	PLT_37879	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.04039	0.00015
6	Acct 380 - Services	PLT_380	1.00000	0.85240	0.13646	0.00775	0.00084	0.00114	0.00140	0.00001
7	Accts 381 Thru 385 - Meters & Regulators	PLT_38185	1.00000	0.73727	0.20028	0.03904	0.00648	0.00693	0.00963	0.00036
8										
9	Accts 376 & 380 - Mains and Services	PLT_37680	1.00000	0.78689	0.13271	0.05119	0.00640	0.01228	0.01037	0.00016
10										
11	Total Intangible Plant	INTANPLT	1.00000	0.73233	0.16704	0.06226	0.01166	0.00822	0.01832	0.00017
12	Total Local Storage Plant	STORPLT	1.00000	0.66197	0.22750	0.08932	0.02106	0.00000	0.00000	0.00016
13	Total Transmission Plant	TRANPLT	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.04039	0.00015
14	Total Distribution Plant	DISTPLT	1.00000	0.77717	0.14097	0.05175	0.00703	0.01144	0.01147	0.00017
15	Total General Plant	GENPLT	1.00000	0.73116	0.17389	0.05358	0.01079	0.01278	0.01761	0.00019
16										
17	Total Transmission Plant and Distribution Plant	TDPLT	1.00000	0.73578	0.16375	0.06144	0.01125	0.00836	0.01925	0.00017
18										
19	Total Gas Plant in Service	PLANT	1.00000	0.73233	0.16704	0.06226	0.01166	0.00822	0.01832	0.00017
20										
21	Total Construction Work in Progress	CWIP	1.00000	0.72316	0.17297	0.06218	0.01232	0.00864	0.02056	0.00017
22										
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

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(14)

(15)

(16)

RATIO TABLE CONTINUED

1	INTERNALLY DEVELOPED FACTORS								
2	-----								
3	Accts 374 & 375 - Land & Rights and Struc & Improv	PLT_37475	0.00000	0.00000					
4	Acct 376 - Mains	PLT_376	0.00025	0.01842					
5	Accts 378 & 379 - Meas & Regulation Station	PLT_37879	0.00000	0.00000					
6	Acct 380 - Services	PLT_380	0.00004	0.00110					
7	Accts 381 Thru 385 - Meters & Regulators	PLT_38185	0.00024	0.00669					
8									
9	Accts 376 & 380 - Mains and Services	PLT_37680	0.00017	0.01211					
10									
11	Total Intangible Plant	INTANPLT	0.00012	0.00810					
12	Total Local Storage Plant	STORPLT	0.00000	0.00000					
13	Total Transmission Plant	TRANPLT	0.00000	0.00000					
14	Total Distribution Plant	DISTPLT	0.00017	0.01127					
15	Total General Plant	GENPLT	0.00013	0.01264					
16									
17	Total Transmission Plant and Distribution Plant	TDPLT	0.00012	0.00824					
18									
19	Total Gas Plant in Service	PLANT	0.00012	0.00810					
20									
21	Total Construction Work in Progress	CWIP	0.00011	0.00853					
22									
23									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

RATIO TABLE CONTINUED

TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
1 INTERNALLY DEVELOPED FACTORS CONT.							
2 -----							
3 Acct 874-Mains & Services Expense EXP_874	1.00000	0.78689	0.13271	0.05119	0.00640	0.01228	0.00016
4 Acct 875-Measuring and Reg Stations-Ge EXP_875	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.00015
5 Acct 878-Meter and House Regulator Expense EXP_878	1.00000	0.73727	0.20028	0.03904	0.00648	0.00693	0.00036
6 Acct 879-Customer Installation Expense EXP_879	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.00015
7 Acct 880-Gas Oper Distribution-Other Expense EXP_880	1.00000	0.77052	0.14604	0.05248	0.00753	0.01089	0.00018
8 Acct 887-Dist Maintenance of Mains EXP_887	1.00000	0.74935	0.13057	0.07609	0.00958	0.01867	0.00024
9 Acct 889-Dist Maint-Meas/Reg Stn Equip-Gas EXP_889	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.00015
10 Acct 890-Dist Maint-Meas/Reg Stn Eq-Indus EXP_890	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.00015
11 Acct 891-Dist Maint M&R Equip City Gate EXP_891	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.00015
12 Acct 892-Dist Maintenance of Services EXP_892	1.00000	0.85240	0.13646	0.00775	0.00084	0.00114	0.00001
13 Acct 893-Dist Maint - Meters and House Reg EXP_893	1.00000	0.73727	0.20028	0.03904	0.00648	0.00693	0.00036
14 Acct 894-Dist Maint-Other Distribution Equip EXP_894	1.00000	0.62324	0.22569	0.08780	0.02273	0.00000	0.00015
15 Acct 902-Meter Reading Expense EXP_902	1.00000	0.84947	0.10367	0.02630	0.00570	0.00613	0.00032
16 Acct 903-Cust Records & Collect Excl Local Uncoll EXP_903	1.00000	0.89120	0.10163	0.00345	0.00023	0.00055	0.00001
17 Acct 903-Cust Collecting-Local Uncollect Accts (904) EXP_904	1.00000	0.80487	0.16679	0.00679	0.00000	0.00241	0.00000
18 Acct 909-Miscellaneous Advertising Expense EXP_909	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
19 Acct 910-Customer Assistance Expense EXP_910	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
20 Acct 912-Demonstrating & Selling Exp EXP_912	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
21 Acct 913-Advertising Expense EXP_913	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
22 Acct 916-Miscellaneous Sales EXP_916	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
23 Acct 920-A & G Salaries EXP_920	1.00000	0.73117	0.17389	0.05358	0.01079	0.01278	0.00019
24 Acct 921-Office Supplies and Expenses EXP_921	1.00000	0.73117	0.17389	0.05358	0.01079	0.01278	0.00019
25 Acct 922-Admin Exp Transfer - CREDIT EXP_922	1.00000	0.73117	0.17389	0.05358	0.01079	0.01278	0.00019
26 Acct 923-Outside Services Employed EXP_923	1.00000	0.73117	0.17389	0.05358	0.01079	0.01278	0.00019
27 Acct 924-Property Insurance EXP_924	1.00000	0.73233	0.16704	0.06226	0.01166	0.00822	0.00017
28 Acct 925-Injuries and Damages EXP_925	1.00000	0.73117	0.17389	0.05358	0.01079	0.01278	0.00019
29 Acct 926-Employee Pensions and Benefits EXP_926	1.00000	0.73117	0.17389	0.05358	0.01079	0.01278	0.00019
30 Acct 928-Regulatory Commission Expenses EXP_928	1.00000	0.71310	0.17597	0.06622	0.01230	0.01410	0.00018
31 Acct 930-Misc General Expenses EXP_930	1.00000	0.73117	0.17389	0.05358	0.01079	0.01278	0.00019
32 Acct 932&935-Maintenance of General Plant Exp EXP_932	1.00000	0.73116	0.17389	0.05358	0.01079	0.01278	0.00019
33 ACCT 874-879 Distribution Operation Expense EXP_8719	1.00000	0.77052	0.14604	0.05248	0.00753	0.01089	0.00018
34 ACCT 874-880 Distribution Operation Expense EXP_8710	1.00000	0.77052	0.14604	0.05248	0.00753	0.01089	0.00018
35 Accts 902-904 Customer Accounts Expense EXP_9024	1.00000	0.87187	0.11611	0.00428	0.00020	0.00099	0.00001

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

(14)

(15)

(16)

RATIO TABLE CONTINUED

1 INTERNALLY DEVELOPED FACTORS CONT.

2	-----								
3	Acct 874-Mains & Services Expense	EXP_874	0.00017	0.01211					
4	Acct 875-Measuring and Reg Stations-Ge	EXP_875	0.00000	0.00000					
5	Acct 878-Meter and House Regulator Expense	EXP_878	0.00024	0.00669					
6	Acct 879-Customer Installation Expense	EXP_879	0.00000	0.00000					
7	Acct 880-Gas Oper Distribution-Other Expense	EXP_880	0.00017	0.01072					
8	Acct 887-Dist Maintenance of Mains	EXP_887	0.00025	0.01842					
9	Acct 889-Dist Maint-Meas/Reg Stn Equip-Gas	EXP_889	0.00000	0.00000					
10	Acct 890-Dist Maint-Meas/Reg Stn Eq-Indus	EXP_890	0.00000	0.00000					
11	Acct 891-Dist Maint M&R Equip City Gate	EXP_891	0.00000	0.00000					
12	Acct 892-Dist Maintenance of Services	EXP_892	0.00004	0.00110					
13	Acct 893-Dist Maint - Meters and House Reg	EXP_893	0.00024	0.00669					
14	Acct 894-Dist Maint-Other Distribution Equip	EXP_894	0.00000	0.00000					
15	Acct 902-Meter Reading Expense	EXP_902	0.00022	0.00592					
16	Acct 903-Cust Records & Collect Excl Local Uncoll	EXP_903	0.00001	0.00054					
17	Acct 903-Cust Collecting-Local Uncollect Accts (904)	EXP_904	0.00000	0.00241					
18	Acct 909-Miscellaneous Advertising Expense	EXP_909	0.00038	0.14086					
19	Acct 910-Customer Assistance Expense	EXP_910	0.00038	0.14086					
20	Acct 912-Demonstrating & Selling Exp	EXP_912	0.00038	0.14086					
21	Acct 913-Advertising Expense	EXP_913	0.00038	0.14086					
22	Acct 916-Miscellaneous Sales	EXP_916	0.00038	0.14086					
23	Acct 920-A & G Salaries	EXP_920	0.00013	0.01264					
24	Acct 921-Office Supplies and Expenses	EXP_921	0.00013	0.01264					
25	Acct 922-Admin Exp Transfer - CREDIT	EXP_922	0.00013	0.01264					
26	Acct 923-Outside Services Employed	EXP_923	0.00013	0.01264					
27	Acct 924-Property Insurance	EXP_924	0.00012	0.00810					
28	Acct 925-Injuries and Damages	EXP_925	0.00013	0.01264					
29	Acct 926-Employee Pensions and Benefits	EXP_926	0.00013	0.01264					
30	Acct 928-Regulatory Commission Expenses	EXP_928	0.00013	0.01397					
31	Acct 930-Misc General Expenses	EXP_930	0.00013	0.01264					
32	Acct 932&935-Maintenance of General Plant Exp	EXP_932	0.00013	0.01264					
33	ACCT 874-879 Distribution Operation Expense	EXP_8719	0.00017	0.01072					
34	ACCT 874-880 Distribution Operation Expense	EXP_8710	0.00017	0.01072					
35	Accts 902-904 Customer Accounts Expense	EXP_9024	0.00001	0.00098					

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
RATIO TABLE CONTINUED									
1	INTERNALLY DEVELOPED FACTORS CONT.								
2	-----								
3	Total Other O&M Expense (Excludes Gas Costs)	EXPDOM	1.00000	0.72829	0.17111	0.05457	0.01093	0.01692	0.00018
4									
5	Total Purchased Gas Labor Expense	TLABPROD	1.00000	0.38678	0.17788	0.06662	0.02375	0.28223	0.00009
6	Total Other Storage Labor Expense	TLABSTOR	1.00000	0.66197	0.22750	0.08932	0.02106	0.00000	0.00016
7									
8	Distribution Operation Labor Accts 874 - 880	LABDO	1.00000	0.72369	0.18547	0.05538	0.01062	0.00684	0.00024
9	Distribution Maintenance Labor Accts 887 - 894	LABDM	1.00000	0.71813	0.17316	0.06677	0.01175	0.01025	0.00024
10	Total Distribution Operation Labor Expense	TLABDO	1.00000	0.72368	0.18547	0.05538	0.01062	0.00684	0.00024
11	Total Distribution Maintenance Labor Expense	TLABDM	1.00000	0.71813	0.17316	0.06677	0.01175	0.01025	0.00024
12									
13	Customer Account Labor Accts 902 - 905	LABCA	1.00000	0.86573	0.11865	0.00602	0.00058	0.00145	0.00003
14	Total Customer Accounts Labor Expense	TLABCA	1.00000	0.86573	0.11865	0.00602	0.00058	0.00145	0.00003
15									
16	Customer Service & Info Labor Accts 910-912	LABCSI	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
17	Total Customer Service & Info Labor Expense	TLABCSI	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
18									
19	Sales Expense Labor Accts 912-916	LABSA	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
20	Total Sales Labor Expense	TLABSA	1.00000	0.64571	0.13468	0.03477	0.01201	0.14125	0.00005
21									
22	Sum of Allocated Labor Expense Excl Prod & A&G	LABORP	1.00000	0.73117	0.17389	0.05358	0.01079	0.01278	0.00019
23	Sum of Allocated Labor Expense Excl Prod	LABOR	1.00000	0.73116	0.17389	0.05358	0.01079	0.01278	0.00019
24									
25	Revenue at Claimed Rate of Return	REVCLAIM	1.00000	0.71310	0.17597	0.06622	0.01230	0.01410	0.00018
26	<u>Claimed Revenue</u>								
27	Rate 301 - Residential	REVRES	1.00000	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000
28	Rate 302 - Small General Service	REVSGS	1.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000
29	Rate 352 - Medium General Service	REVMGS	1.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000
30	Rate 303 - Large General Service	REVLGS	1.00000	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000
31	Rates 313 - Firm Transportation	REVFT	1.00000	0.00000	0.00000	0.00000	0.00000	1.00000	0.00000
32	Rates 310 - Sales for Resale	REVSR	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000	1.00000
33	Rates 304 - Interruptible Sales Service	REVISS	1.00000	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000
34	Rates 314 - Interruptible Transportation	REVIT	1.00000	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000
35	<u>Plant</u>								
36	Rate 301 - Residential	PLTRES	1.00000	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000
37	Rate 302 - Small General Service	PLTSGS	1.00000	0.00000	1.00000	0.00000	0.00000	0.00000	0.00000
38	Rate 352 - Medium General Service	PLTMGS	1.00000	0.00000	0.00000	1.00000	0.00000	0.00000	0.00000
39	Rate 303 - Large General Service	PLTLGS	1.00000	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000
40	Rates 313 - Firm Transportation	PLTFT	1.00000	0.00000	0.00000	0.00000	0.00000	1.00000	0.00000
41	Rates 310 - Sales for Resale	PLTSR	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000	1.00000
42	Rates 304 - Interruptible Sales Service	PLTISS	1.00000	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000
43	Rates 314 - Interruptible Transportation	PLTIT	1.00000	0.00000	0.00000	0.00000	1.00000	0.00000	0.00000
44									
45									

PIEDMONT NATURAL GAS COMPANY, INC.
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12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

(14)

(15)

(16)

RATIO TABLE CONTINUED

1	INTERNALLY DEVELOPED FACTORS CONT.								
2	-----								
3	Total Other O&M Expense (Excludes Gas Costs)	EXPROOM	0.00014	0.01678					
4									
5	Total Purchased Gas Labor Expense	TLABPROD	0.00076	0.28147					
6	Total Other Storage Labor Expense	TLABSTOR	0.00000	0.00000					
7									
8	Distribution Operation Labor Accts 874 - 880	LABDO	0.00016	0.00668					
9	Distribution Maintenance Labor Accts 887 - 894	LABDM	0.00018	0.01007					
10	Total Distribution Operation Labor Expense	TLABDO	0.00016	0.00669					
11	Total Distribution Maintenance Labor Expense	TLABDM	0.00018	0.01007					
12									
13	Customer Account Labor Accts 902 - 905	LABCA	0.00002	0.00143					
14	Total Customer Accounts Labor Expense	TLABCA	0.00002	0.00143					
15									
16	Customer Service & Info Labor Accts 910-912	LABCSI	0.00038	0.14086					
17	Total Customer Service & Info Labor Expense	TLABCSI	0.00038	0.14086					
18									
19	Sales Expense Labor Accts 912-916	LABSA	0.00038	0.14086					
20	Total Sales Labor Expense	TLABSA	0.00038	0.14086					
21									
22	Sum of Allocated Labor Expense Excl Prod & A&G	LABORP	0.00013	0.01264					
23	Sum of Allocated Labor Expense Excl Prod	LABOR	0.00013	0.01264					
24									
25	Revenue at Claimed Rate of Return	REVCLAIM	0.00013	0.01397					
26	<u>Claimed Revenue</u>								
27	Rate 301 - Residential	REVRES	0.00000	0.00000					
28	Rate 302 - Small General Service	REVSGS	0.00000	0.00000					
29	Rate 352 - Medium General Service	REVMGS	0.00000	0.00000					
30	Rate 303 - Large General Service	REVLGS	0.00000	0.00000					
31	Rates 313 - Firm Transportation	REVFT	0.00000	0.00000					
32	Rates 310 - Sales for Resale	REVSR	0.00000	0.00000					
33	Rates 304 - Interruptible Sales Service	REVISS	1.00000	0.00000					
34	Rates 314 - Interruptible Transportation	REVIT	0.00000	1.00000					
35	<u>Plant</u>								
36	Rate 301 - Residential	PLTRES	0.00000	0.00000					
37	Rate 302 - Small General Service	PLTSGS	0.00000	0.00000					
38	Rate 352 - Medium General Service	PLTMGS	0.00000	0.00000					
39	Rate 303 - Large General Service	PLTLGS	0.00000	0.00000					
40	Rates 313 - Firm Transportation	PLTFT	0.00000	0.00000					
41	Rates 310 - Sales for Resale	PLTSR	0.00000	0.00000					
42	Rates 304 - Interruptible Sales Service	PLTISS	1.00000	0.00000					
43	Rates 314 - Interruptible Transportation	PLTIT	0.00000	1.00000					
44									
45									

PIEDMONT NATURAL GAS COMPANY, INC.
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12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

TOTAL
COMPANY
(1)-1

Residential
Service
Rate 301
(2)

Small General
Service
Rate 302
(3)

Medium General
Service
Rate 352
(4)

Large General
Service
Rate 303
(5)

Interruptible
Service
Rates 304 & 314
(6)

Firm Transportation
Service
Rate 313
(7)

Sales for
Resale
Rate 310
(8)

RATIO TABLE CONTINUED

1	PRESENT REVENUE FROM SALES INPUT								
2	-----								
3	Base Sales Revenues	1.00000	0.59449	0.24400	0.07428	0.01623	0.03801	0.03284	0.00015
4	Integrity Management Revenues	1.00000	0.59644	0.25020	0.06180	0.01336	0.04209	0.03583	0.00028
8	Minimum Margin Agreement Revenues	1.00000	0.00000	0.00000	0.00000	0.05353	0.00000	0.94647	0.00000
9	Unprotected Excess ADIT Refund	1.00000	0.58573	0.23528	0.08812	0.00585	0.06952	0.01544	0.00007
5	Total Base Margin								
6	Gas Cost Revenues	1.00000	0.57640	0.26509	0.09928	0.03648	0.00081	0.02160	0.00034
7	Sales and Transportation Revenue	1.00000	0.58957	0.25117	0.07942	0.02162	0.02790	0.03008	0.00023
10	Special Contract (Other Operating Revenue)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
11	Total Sales & Transportation Revenue	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
12									
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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

(14)

(15)

(16)

RATIO TABLE CONTINUED

1 **PRESENT REVENUE FROM SALES INPUT**

2 -----

3	Base Sales Revenues	0.00037	0.03764						
4	Integrity Management Revenues	0.00013	0.04196						
8	Minimum Margin Agreement Revenues	0.00000	0.00000						
9	Unprotected Excess ADIT Refund	0.00019	0.06934						
5	Total Base Margin								
6	Gas Cost Revenues	0.00081	0.00000						
7	Sales and Transportation Revenue	0.00046	0.02744						
10	Special Contract (Other Operating Revenue)	0.00000	0.00000						
11	Total Sales & Transportation Revenue	0.00000	0.00000						

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PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Rate Base - 13-mth average attrition period ended 12/31/2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
ALLOCATED DIRECT ASSIGNMENTS									
1	UNCOLLECTIBLE ACCOUNTS								
2	-----								
3	Base Revenue Uncollectible Accounts								
4	Rate 301 - Residential	REVRES	467,528	467,528	0	0	0	0	0
5	Rate 302 - Small General Service	REVSGS	96,882	0	96,882	0	0	0	0
6	Rate 352 - Medium General Service	REVMGS	3,941	0	0	3,941	0	0	0
7	Rate 303 - Large General Service	REVLGS	0	0	0	0	0	0	0
8	Rates 313 - Firm Transportation	REVFT	11,125	0	0	0	0	11,125	0
9	Rates 314 - Interruptible Transportation	REVIT	1,399	0	0	0	1,399	0	0
10	Total Base Revenue Uncollectible Accounts		580,875	467,528	96,882	3,941	1,399	11,125	0
11									
12	Total 903 - Uncollectible Accounts - Local (904)		580,875	467,528	96,882	3,941	1,399	11,125	0
13	Total 903 - Uncollectible Accounts - Local (904)	UNCOLL	1.00000	0.80487	0.16679	0.00679	0.00000	0.00241	0.01915
14									0.00000
15									
16	Minimum Margin Agreement Revenue								
17	Rate 301 - Residential	REVRES	0	0	0	0	0	0	0
18	Rate 302 - Small General Service	REVSGS	0	0	0	0	0	0	0
19	Rate 352 - Medium General Service	REVMGS	0	0	0	0	0	0	0
20	Rate 303 - Large General Service	REVLGS	13,505	0	0	13,505	0	0	0
21	Rates 313 - Firm Transportation	REVFT	238,800	0	0	0	0	238,800	0
16	Rates 310 - Sales for Resale	REVSR	0	0	0	0	0	0	0
17	Rates 304 - Interruptible Sales Service	REVISS	0	0	0	0	0	0	0
22	Rates 314 - Interruptible Transportation	REVIT	0	0	0	0	0	0	0
23	Total Minimum Margin Agreement Revenue		252,305	0	0	13,505	0	238,800	0
24									
25	Total Minimum Margin Agreement Revenue		252,305	0	0	13,505	0	238,800	0
26	Total Minimum Margin Agreement Revenue	REVMMA	1.00000	0.00000	0.00000	0.00000	0.05353	0.94647	0.00000
27									
28									
29	Unprotected Excess ADIT Refund								
30	Rate 301 - Residential	PLTRES	(5,466,685)	(5,466,685)	0	0	0	0	0
31	Rate 302 - Small General Service	PLTSGS	(2,195,895)	0	(2,195,895)	0	0	0	0
32	Rate 352 - Medium General Service	PLTMGS	(822,401)	0	0	(822,401)	0	0	0
33	Rate 303 - Large General Service	PLTLGS	(54,605)	0	0	(54,605)	0	0	0
34	Rates 313 - Firm Transportation	PLTFT	(144,065)	0	0	0	0	(144,065)	0
31	Rates 310 - Sales for Resale	PLTSR	(648)	0	0	0	0	0	(648)
32	Rates 304 - Interruptible Sales Service	PLTISS	(1,739)	0	0	0	(1,739)	0	0
35	Rates 314 - Interruptible Transportation	PLTIT	(647,148)	0	0	0	(647,148)	0	0
36	Total Unprotected Excess ADIT Refund		(9,333,186)	(5,466,685)	(2,195,895)	(822,401)	(54,605)	(648,888)	(144,065)
37									
38	Unprotected Excess ADIT Refund		(9,333,186)	(5,466,685)	(2,195,895)	(822,401)	(54,605)	(648,888)	(144,065)
39	Unprotected Excess ADIT Refund	EXADITREF	1.00000	0.58573	0.23528	0.08812	0.00585	0.06952	0.01544
40									0.00007
41									
42									
43									
44									
45									

PIEDMONT NATURAL GAS COMPANY, INC.
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Rate Base - 13-mth average attrition period ended 12/31/2021

ALLOC

Interruptible
Sales Service
Rate 304
(9)-2

Interruptible
Transportation
Rate 314
(10)

(11)

(12)

(13)

(14)

(15)

(16)

ALLOCATED DIRECT ASSIGNMENTS

1	UNCOLLECTIBLE ACCOUNTS							
2	-----							
3	Base Revenue Uncollectible Accounts							
4	Rate 301 - Residential	REVRES	0	0				
5	Rate 302 - Small General Service	REVSGS	0	0				
6	Rate 352 - Medium General Service	REVMGS	0	0				
7	Rate 303 - Large General Service	REVLGS	0	0				
8	Rates 313 - Firm Transportation	REVFT	0	0				
9	Rates 314 - Interruptible Transportation	REVIT	0	1,399				
10	Total Base Revenue Uncollectible Accounts		0	1,399				
11								
12	Total 903 - Uncollectible Accounts - Local (904)		0	1,399				
13	Total 903 - Uncollectible Accounts - Local (904)	UNCOLL	0.00000	0.00241				
14								
15								
16	Minimum Margin Agreement Revenue							
17	Rate 301 - Residential	REVRES	0	0				
18	Rate 302 - Small General Service	REVSGS	0	0				
19	Rate 352 - Medium General Service	REVMGS	0	0				
20	Rate 303 - Large General Service	REVLGS	0	0				
21	Rates 313 - Firm Transportation	REVFT	0	0				
16	Rates 310 - Sales for Resale	REVSR	0	0				
17	Rates 304 - Interruptible Sales Service	REVISS	0	0				
22	Rates 314 - Interruptible Transportation	REVIT	0	0				
23	Total Minimum Margin Agreement Revenue		0	0				
24								
25	Total Minimum Margin Agreement Revenue		0	0				
26	Total Minimum Margin Agreement Revenue	REVMMA	0.00000	0.00000				
27								
28								
29	Unprotected Excess ADIT Refund							
30	Rate 301 - Residential	PLTRES	0	0				
31	Rate 302 - Small General Service	PLTSGS	0	0				
32	Rate 352 - Medium General Service	PLTMGS	0	0				
33	Rate 303 - Large General Service	PLTLGS	0	0				
34	Rates 313 - Firm Transportation	PLTFT	0	0				
31	Rates 310 - Sales for Resale	PLTSR	0	0				
32	Rates 304 - Interruptible Sales Service	PLTISS	(1,739)	0				
35	Rates 314 - Interruptible Transportation	PLTIT	0	(647,148)				
36	Total Unprotected Excess ADIT Refund		(1,739)	(647,148)				
37								
38	Unprotected Excess ADIT Refund		(1,739)	(647,148)				
39	Unprotected Excess ADIT Refund	EXADITREF	0.00019	0.06934				

Exhibit PMN-6-COS

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
PRESENT RATE OF RETURN SUMMARY SCHEDULE								
1 RATE OF RETURN	4.67%	2.56%	9.47%	5.78%	7.76%	36.63%	13.37%	4.96%
2								
3 REVENUES REQUIRED								
4								
5 CAPACITY COMPONENTS	67,978,903	67,978,903	31,155,075	21,403,711	6,225,298	1,778,376	3,473,949	9,410
6 CAPACITY PRODUCTION COMPONENT	(0)	0	(0)	0	0	(0)	0	(0)
7 CAPACITY STORAGE COMPONENT	9,250,693	5,224,609	2,889,752	904,446	230,438	(0)	0	1,448
8 CAPACITY TRANSMISSION COMPONENT	33,961,131	14,735,570	12,080,551	3,313,814	987,576	197,059	2,641,725	4,836
9 CAPACITY DISTRIBUTION COMPONENT	24,767,079	11,194,896	6,433,408	2,007,038	560,362	3,276,890	1,291,360	3,125
10								
11 COMMODITY COMPONENT	780,661	780,661	281,354	314,788	78,430	30,799	62,689	12,494
12 COMMODITY GAS COST COMP	0	0	0	0	0	0	0	0
13 COMMODITY OTHER COMP	780,660	281,354	314,787	78,430	30,799	62,689	12,494	108
14								
15 CUSTOMER COMPONENTS	81,511,819	81,511,819	57,968,244	15,170,426	4,411,024	526,965	2,321,031	1,096,873
16 ACCT 376 -MAINS COMPONENT	36,965,488	24,310,439	6,863,266	3,393,815	343,788	1,301,622	742,324	10,234
17 ACCT 380 - SERVICES COMPONENT	16,810,417	13,595,082	2,961,190	147,514	15,376	60,497	30,544	212
18 ACCTS 381-385 - METERS & REGULATORS	17,802,122	12,174,485	4,262,869	727,779	124,931	292,083	213,583	6,392
19 CUSTOMER ACCOUNTS EXPENSE COMPONENT	6,609,105	5,882,126	669,749	34,774	5,354	8,561	8,278	263
20 CUSTOMER SERV & INFO EXPENSE COMPONENT	182,060	113,894	24,671	6,159	2,129	29,693	5,504	9
21 CUSTOMER SALES EXPENSE COMPONENT	3,082,001	1,801,684	418,588	100,982	35,387	628,575	96,639	146
22 CUSTOMER OTHER COMPONENT - CREDITS	60,626	90,534	(29,908)	(0)	(0)	0	(0)	0
23								
24 TOTAL COMPANY	150,271,383	150,271,383	89,404,673	36,888,924	10,714,751	2,336,139	5,857,669	5,042,452
25								
26								
27 \$/THERM								
28								
29 CAPACITY COMPONENTS	\$0.1999	\$0.2369	\$0.3539	\$0.2749	\$0.2202	\$0.0362	\$0.1846	\$0.2992
30 CAPACITY PRODUCTION COMPONENT	(\$0.0000)	\$0.0000	(\$0.0000)	\$0.0000	\$0.0000	(\$0.0000)	\$0.0000	(\$0.0000)
31 CAPACITY STORAGE COMPONENT	\$0.0272	\$0.0397	\$0.0478	\$0.0399	\$0.0285	(\$0.0000)	\$0.0000	\$0.0461
32 CAPACITY TRANSMISSION COMPONENT	\$0.0999	\$0.1121	\$0.1998	\$0.1463	\$0.1223	\$0.0021	\$0.1240	\$0.1538
33 CAPACITY DISTRIBUTION COMPONENT	\$0.0728	\$0.0851	\$0.1064	\$0.0886	\$0.0694	\$0.0342	\$0.0606	\$0.0994
34								
35 ANNUAL THERM SALES	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514	95,951,898	21,303,108	31,451
36								
37								
38 \$/MONTH/CUSTOMER								
39								
40 CUSTOMER COMPONENTS	\$35.0407	\$35.0407	\$27.5462	\$71.2879	\$646.7777	\$851.3167	\$3,792.5341	\$1,181.9747
41 ACCT 376 -MAINS COMPONENT	\$15.8909	\$11.5522	\$32.2514	\$497.6268	\$555.3920	\$2,126.8339	\$799.9180	\$426.4195
42 ACCT 380 - SERVICES COMPONENT	\$7.2265	\$6.4603	\$13.9150	\$21.6297	\$24.8402	\$98.8519	\$32.9139	\$8.8483
43 ACCTS 381-385 - METERS & REGULATORS	\$7.6529	\$5.7853	\$20.0318	\$106.7125	\$201.8271	\$477.2598	\$230.1541	\$266.3292
44 CUSTOMER ACCOUNTS EXPENSE COMPONENT	\$2.8412	\$2.7952	\$3.1472	\$5.0988	\$8.6496	\$13.9885	\$8.9205	\$10.9446
45 CUSTOMER SERV & INFO EXPENSE COMPONENT	\$0.0783	\$0.0541	\$0.1159	\$0.9031	\$3.4401	\$48.5173	\$5.9312	\$0.3763
46 CUSTOMER SALES EXPENSE COMPONENT	\$1.3249	\$0.8562	\$1.9670	\$14.8067	\$57.1677	\$1,027.0827	\$104.1370	\$6.0818
47 CUSTOMER OTHER COMPONENT - CREDITS	\$0.0261	\$0.0430	(\$0.1405)	(\$0.0000)	(\$0.0000)	\$0.0000	(\$0.0000)	\$0.0000
48								
49 TOTAL AVERAGE ANNUAL CUSTOMERS	193,851	175,367	17,734	568	52	51	77	2
50								

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

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Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
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PRESENT RATE OF RETURN SUMMARY SCHEDULE

1	RATE OF RETURN		22.63%	36.82%
2				
3	REVENUES REQUIRED			
4	-----			
5	CAPACITY COMPONENTS	67,978,903	5,742	3,468,207
6	CAPACITY PRODUCTION COMPONENT		(0)	0
7	CAPACITY STORAGE COMPONENT		(0)	0
8	CAPACITY TRANSMISSION COMPONENT		511	196,549
9	CAPACITY DISTRIBUTION COMPONENT		5,232	3,271,659
10				
11	COMMODITY COMPONENT	780,661	162	62,526
12	COMMODITY GAS COST COMP		0	(0)
13	COMMODITY OTHER COMP		162	62,526
14				
15	CUSTOMER COMPONENTS	81,511,819	40,768	2,280,263
16	ACCT 376 -MAINS COMPONENT		30,682	1,270,941
17	ACCT 380 - SERVICES COMPONENT		1,182	59,315
18	ACCTS 381-385 - METERS & REGULATORS		7,177	284,906
19	CUSTOMER ACCOUNTS EXPENSE COMPONENT		254	8,307
20	CUSTOMER SERV & INFO EXPENSE COMPONENT		74	29,619
21	CUSTOMER SALES EXPENSE COMPONENT		1,398	627,176
22	CUSTOMER OTHER COMPONENT - CREDITS		0	(0)
23				
24	TOTAL COMPANY	150,271,383	46,672	5,810,997
25				
26				
27	\$/THERM			
28	-----			
29	CAPACITY COMPONENTS		\$0.0223	\$0.0362
30	CAPACITY PRODUCTION COMPONENT		(\$0.0000)	\$0.0000
31	CAPACITY STORAGE COMPONENT		(\$0.0000)	\$0.0000
32	CAPACITY TRANSMISSION COMPONENT		\$0.0020	\$0.0021
33	CAPACITY DISTRIBUTION COMPONENT		\$0.0203	\$0.0342
34				
35	ANNUAL THERM SALES		257,216	95,694,681
36				
37				
38	\$/MONTH/CUSTOMER			
39	-----			
40	CUSTOMER COMPONENTS	\$35.0407	\$1,698.6460	\$3,877.9989
41	ACCT 376 -MAINS COMPONENT		\$1,278.3994	\$2,161.4639
42	ACCT 380 - SERVICES COMPONENT		\$49.2574	\$100.8762
43	ACCTS 381-385 - METERS & REGULATORS		\$299.0600	\$484.5332
44	CUSTOMER ACCOUNTS EXPENSE COMPONENT		\$10.5842	\$14.1275
45	CUSTOMER SERV & INFO EXPENSE COMPONENT		\$3.0869	\$50.3716
46	CUSTOMER SALES EXPENSE COMPONENT		\$58.2580	\$1,066.6265
47	CUSTOMER OTHER COMPONENT - CREDITS		\$0.0000	(\$0.0000)
48				
49	TOTAL AVERAGE ANNUAL CUSTOMERS		2	49
50				

PIEDMONT NATURAL GAS COMPANY, INC.
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TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)
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CLAIMED RATE OF RETURN SUMMARY SCHEDULE

1	RATE OF RETURN		7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	
2										
3	REVENUES REQUIRED									
4										
5	CAPACITY COMPONENTS	79,804,858	79,804,858	49,316,505	17,987,848	6,961,133	1,683,342	1,354,219	2,490,329	11,482
6	CAPACITY PRODUCTION COMPONENT		(0)	0	(0)	0	0	(0)	0	(0)
7	CAPACITY STORAGE COMPONENT		10,986,051	7,254,401	2,525,430	983,493	221,050	(0)	0	1,677
8	CAPACITY TRANSMISSION COMPONENT		42,994,797	26,687,219	9,819,543	3,800,661	924,087	184,308	1,572,776	6,203
9	CAPACITY DISTRIBUTION COMPONENT		25,824,009	15,374,885	5,642,876	2,176,979	538,204	1,169,911	917,553	3,602
10										
11	COMMODITY COMPONENT	1,055,268	1,055,268	617,365	245,079	93,214	28,548	58,632	12,284	146
12	COMMODITY GAS COST COMP		0	0	0	0	0	0	0	0
13	COMMODITY OTHER COMP		1,055,267	617,364	245,079	93,214	28,548	58,632	12,284	146
14										
15	CUSTOMER COMPONENTS	99,330,378	99,330,378	78,560,158	13,475,178	4,877,828	503,988	1,127,206	765,793	20,228
16	ACCT 376 -MAINS COMPONENT		50,605,136	39,800,755	5,722,983	3,817,193	324,433	459,855	467,258	12,659
17	ACCT 380 - SERVICES COMPONENT		19,164,008	16,186,898	2,744,531	154,290	15,006	38,392	24,660	231
18	ACCTS 381-385 - METERS & REGULATORS		19,566,894	14,396,119	3,947,894	761,598	122,103	158,724	173,551	6,906
19	CUSTOMER ACCOUNTS EXPENSE COMPONENT		6,993,903	6,291,741	647,710	35,490	5,297	5,923	7,470	272
20	CUSTOMER SERV & INFO EXPENSE COMPONENT		180,448	116,971	24,339	6,205	2,122	25,504	5,298	9
21	CUSTOMER SALES EXPENSE COMPONENT		3,005,321	1,936,822	403,906	103,052	35,027	438,808	87,555	151
22	CUSTOMER OTHER COMPONENT		(185,334)	(169,148)	(16,186)	(0)	(0)	0	(0)	0
23										
24	TOTAL COMPANY	180,190,504	180,190,504	128,494,027	31,708,105	11,932,174	2,215,878	2,540,057	3,268,406	31,856
25										
26										
27	\$/THERM									
28										
29	CAPACITY COMPONENTS		\$0.2347	\$0.3750	\$0.2974	\$0.3074	\$0.2085	\$0.0141	\$0.1169	\$0.3651
30	CAPACITY PRODUCTION COMPONENT		(\$0.0000)	\$0.0000	(\$0.0000)	\$0.0000	\$0.0000	(\$0.0000)	\$0.0000	(\$0.0000)
31	CAPACITY STORAGE COMPONENT		\$0.0323	\$0.0552	\$0.0418	\$0.0434	\$0.0274	(\$0.0000)	\$0.0000	\$0.0533
32	CAPACITY TRANSMISSION COMPONENT		\$0.1265	\$0.2030	\$0.1624	\$0.1678	\$0.1144	\$0.0019	\$0.0738	\$0.1972
33	CAPACITY DISTRIBUTION COMPONENT		\$0.0760	\$0.1169	\$0.0933	\$0.0961	\$0.0667	\$0.0122	\$0.0431	\$0.1145
34										
35	ANNUAL THERM SALES		339,980,814	131,496,220	60,474,772	22,648,852	8,074,514	95,951,898	21,303,108	31,451
36										
37										
38	\$/MONTH/CUSTOMER									
39										
40	CUSTOMER COMPONENTS	\$42.7006	\$42.7006	\$37.3314	\$63.3217	\$715.2240	\$814.1978	\$1,841.8403	\$825.2076	\$842.8223
41	ACCT 376 -MAINS COMPONENT		\$21.7544	\$18.9131	\$26.8931	\$559.7058	\$524.1239	\$751.3970	\$503.5111	\$527.4596
42	ACCT 380 - SERVICES COMPONENT		\$8.2383	\$7.6919	\$12.8969	\$22.6231	\$24.2426	\$62.7328	\$26.5738	\$9.6152
43	ACCTS 381-385 - METERS & REGULATORS		\$8.4115	\$6.8410	\$18.5517	\$111.6712	\$197.2590	\$259.3528	\$187.0158	\$287.7374
44	CUSTOMER ACCOUNTS EXPENSE COMPONENT		\$3.0066	\$2.9898	\$3.0437	\$5.2039	\$8.5579	\$9.6781	\$8.0493	\$11.3402
45	CUSTOMER SERV & INFO EXPENSE COMPONENT		\$0.0776	\$0.0556	\$0.1144	\$0.9098	\$3.4274	\$41.6738	\$5.7095	\$0.3809
46	CUSTOMER SALES EXPENSE COMPONENT		\$1.2919	\$0.9204	\$1.8980	\$15.1102	\$56.5871	\$717.0059	\$94.3481	\$6.2890
47	CUSTOMER OTHER COMPONENT		(\$0.0797)	(\$0.0804)	(\$0.0761)	(\$0.0000)	(\$0.0000)	\$0.0000	(\$0.0000)	\$0.0000
48										
49	TOTAL AVERAGE ANNUAL CUSTOMERS		193,851	175,367	17,734	568	52	51	77	2
50										

PIEDMONT NATURAL GAS COMPANY, INC.
GAS COST OF SERVICE STUDY - TENNESSEE
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Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)	(11)	(12)	(13)	(14)	(15)	(16)
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CLAIMED RATE OF RETURN SUMMARY SCHEDULE

1	RATE OF RETURN		7.10%	7.10%
2				
3	REVENUES REQUIRED			
4	-----			
5	CAPACITY COMPONENTS	79,804,858	2,772	1,351,447
6	CAPACITY PRODUCTION COMPONENT		(0)	0
7	CAPACITY STORAGE COMPONENT		(0)	0
8	CAPACITY TRANSMISSION COMPONENT		493	183,815
9	CAPACITY DISTRIBUTION COMPONENT		2,279	1,167,632
10				
11	COMMODITY COMPONENT	1,055,268	157	58,475
12	COMMODITY GAS COST COMP		0	(0)
13	COMMODITY OTHER COMP		157	58,475
14				
15	CUSTOMER COMPONENTS	99,330,378	19,994	1,107,212
16	ACCT 376 -MAINS COMPONENT		13,117	446,738
17	ACCT 380 - SERVICES COMPONENT		780	37,613
18	ACCTS 381-385 - METERS & REGULATORS		4,696	154,028
19	CUSTOMER ACCOUNTS EXPENSE COMPONENT		204	5,719
20	CUSTOMER SERV & INFO EXPENSE COMPONENT		68	25,436
21	CUSTOMER SALES EXPENSE COMPONENT		1,130	437,678
22	CUSTOMER OTHER COMPONENT		0	(0)
23				
24	TOTAL COMPANY	180,190,504	22,923	2,517,135
25				
26				
27	\$/THERM			
28	-----			
29	CAPACITY COMPONENTS		\$0.0108	\$0.0141
30	CAPACITY PRODUCTION COMPONENT		(\$0.0000)	\$0.0000
31	CAPACITY STORAGE COMPONENT		(\$0.0000)	\$0.0000
32	CAPACITY TRANSMISSION COMPONENT		\$0.0019	\$0.0019
33	CAPACITY DISTRIBUTION COMPONENT		\$0.0089	\$0.0122
34				
35	ANNUAL THERM SALES		257,216	95,694,681
36				
37				
38	\$/MONTH/CUSTOMER			
39	-----			
40	CUSTOMER COMPONENTS	\$42.7006	\$833.0829	\$1,883.0141
41	ACCT 376 -MAINS COMPONENT		\$546.5340	\$759.7587
42	ACCT 380 - SERVICES COMPONENT		\$32.4806	\$63.9676
43	ACCTS 381-385 - METERS & REGULATORS		\$195.6819	\$261.9516
44	CUSTOMER ACCOUNTS EXPENSE COMPONENT		\$8.4800	\$9.7270
45	CUSTOMER SERV & INFO EXPENSE COMPONENT		\$2.8413	\$43.2588
46	CUSTOMER SALES EXPENSE COMPONENT		\$47.0651	\$744.3505
47	CUSTOMER OTHER COMPONENT		\$0.0000	(\$0.0000)
48				
49	TOTAL AVERAGE ANNUAL CUSTOMERS		2	49
50				

Exhibit PMN-7-COS

PIEDMONT NATURAL GAS INC.

Minimum Size System Distribution Study

Prepared by:



MANAGEMENT APPLICATIONS CONSULTING, INC.

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MANAGEMENT APPLICATIONS CONSULTING, INC.

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May 28, 2020

Piedmont Natural Gas Inc.
4720 Piedmont Row Drive
Charlotte, North Carolina 28210

RE: Minimum Size System Distribution Study

Transmitted herewith are the results of the 2019 Minimum Size System Distribution study for the Piedmont Natural Gas Inc. (PNG). On behalf of MAC, we appreciate the opportunity to prepare the analysis. We wish to express our appreciation to PNG personnel and Mario DiValentino, for gathering and reviewing the data utilized in the study.

Should you require any additional information or assistance, please contact us.

Best regards,

Debbie L. Gajewski
Managing Consultant

Paul M. Normand
Principal

Enclosure



PIEDMONT NATURAL GAS INC.
DISTRIBUTION STUDY

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PIEDMONT NATURAL GAS INC.

DISTRIBUTION STUDY

I. Executive Summary

Piedmont Natural Gas Inc. has prepared a minimum size system study to identify the portion of the distribution mains account's investment which represents an estimated minimum investment required to serve a nominal load at a customer's location, or a no load condition.

Management Applications Consulting, Inc. (MAC) was retained in March 2020 to assist the Company in the preparation of the minimum size system distribution study (MDS) for the FERC Account 376-Distribution Mains.

The minimum size system method uses a mathematical approach and relies heavily on current installation costs and practices to derive a minimum cost per unit for each type or size of equipment. The Company's staff obtained the data used within the study from the fixed asset information system (FA).

A general description of the methodology employed, the data utilized, and the final results are included as part of this report. A summary of results is shown below in Table MDS-1.

We however caution against a simple application of these results and their allocation in a class cost of service study without further analysis as we have discussed in Section IV of this study.

Table MDS-1 – Summary of Minimum Size System Results

Account	Customer	Demand
376 <= 2 inch	100.00%	
376 > 2 inch	48.42%	51.58%



PIEDMONT NATURAL GAS INC.
DISTRIBUTION STUDY

II. Distribution Study - Minimum Size System Method

A. Theoretical Considerations of Minimum Size System Method¹

A commonly used distribution study method of determining the customer related portion of an account is the minimum size system approach. This method looks at major items of installed plant within an account to calculate the minimum size cost also known as the customer related cost portion of the account.

The minimum system method assumes that a minimum size distribution system can be built to serve the minimum loading requirements of the customers. This method requires that the minimum size equipment (mains) be determined based on the minimum size installed on the system, the minimum size currently being installed, or the minimum size available from a supplier.

In determining the minimum size of each type of equipment, four considerations should be made. First, consider if the minimum size meets legal codes. Second, consider whether the minimum is realistic for all class of services. Third, consider if the minimum size item is a realistic item to be installed. Fourth, consider how often the selected minimum equipment item is used.

¹ Discussions about the minimum size system method is excerpted from the *NARUC Electric Utility Cost Allocation Manual* (1992) and from the *Principals of Public Utility Rates* (1961) by James Bonbright.



PIEDMONT NATURAL GAS INC.

DISTRIBUTION STUDY

B. Criticisms of the Minimum Size System Method²

The minimum size system distribution study attempts to classify distribution plant investment into customer and demand related cost components. Often this study leads to a misclassification or misallocation to customer classes due to the shortcomings associated with employing it. The actual amount of demand capability within the selected minimum size system is a function of load density, minimum required clearances, minimum equipment standards and standardization, temperature, and other engineering considerations. In addition, the number of customers being served varies with the level of service, customer densities, and the type of equipment being used by the customers.

The major criticisms concerning the MDS methods are as follows:

There are two major criticisms associated with the use of the minimum system method. The first criticism is that the selection of the minimum size is largely judgmental. The customer related costs can vary significantly with the choice of method used to identify the minimum sized equipment. A method based on historical practice, current practice, or minimum available from a supplier (as long as it meets safety requirements) can all produce different minimum costs and resulting customer cost percentages of the total account(s).

The second criticism is that this method fails to recognize that even a minimum size distribution system has the capability to carry load that can be considered demand related. Depending on the selected minimum size and customer class, the equipment capability can fully serve a customer's load portion as well. If adjustments are not made to the allocation factors to reflect this load capability, the use of this method will lead to a disproportionate share of demand related costs being allocated to certain customers (i.e. "double dipping"). This is especially true of lower use customers that generally represent the majority of a utility's total customers.

In Section IV of this report we provide general guidelines to consider when incorporating the MDS method discussed above in a class cost of service study. The use of these guidelines will reduce the allocation inequities that have plagued the historical use of these methods.

² NARUC *Electric Utility Cost Allocation Manual*, January 1992, Page 95.



PIEDMONT NATURAL GAS INC.
DISTRIBUTION STUDY

III. Description of Distribution Study

The information required for the minimum size system was provided by a number of departments within the Company. The Company's Engineering department determined the minimum size items currently being installed for the gas distribution plant. The Company's construction department provided the feet of mains for each main size in the account. The Company's construction and engineering department in conjunction with the plant accounting department provided cost estimates for various customer installations.

A. Data Preparation for the Minimum Size System

The following steps were taken to prepare the FERC accounts 364 through 368 data from the Company's database systems to be used in the study:

- Company staff from the Engineering Standards department provided the minimum system size unit to be used in the study.
- The lengths of distribution main sizes by footage.
- The average unit cost for the minimum size equipment and other currently installed main types were provided. These unit prices were used to calculate a 2019 dollar total cost and a 2019 dollar minimum cost.
- The footage associated with the unit costs for the currently installed equipment for plant account 376 was used in the calculation of the customer costs.



PIEDMONT NATURAL GAS INC.

DISTRIBUTION STUDY

B. Minimum Size System Method Employed

The minimum sized equipment used in the preparation of this study was based on the minimum size equipment currently being installed on the Company's system. Minimum sizes were determined and provided by the Engineering Standards department. Main sizes along with their associated quantities and current unit costs were identified and included as part of the study.

The minimum or customer related cost for account 376 was calculated as follows:

1. The Total Booked Cost for each main size for the years 2016 through 2019 were divided by the Gross Domestic Product - Implicit Price Deflator (GDP-IPD) to derive the Current Cost in 2019 dollars.
2. An Average Main Cost Per Foot for each main size for each year 2016 through 2019 was then derived by dividing the current cost dollars for each main size for each year by their associated total footage installed
3. An Average cost per foot for each main size was then derived by taking an average of the 4 year averages.
4. The Average cost per foot was multiplied by each main size's number of feet to derive the Total Cost in 2019 dollars. These costs were summed for a total of \$383,499,975.
5. The Footage for each main size greater than 2-inches was multiplied by the 2-inch main cost per foot of \$16.09 to calculate the customer related costs
6. The Customer related percentage of mains > 2-inches (48.42%) is derived by dividing the sum of the customer related costs for the > 2-inch mains (\$81,086,260) by the sum of the total main > 2-inches cost in 2019 dollars (\$167,460,160).
7. The demand related percentage of mains > 2-inches (51.58%) is derived by dividing the demand related costs (\$86,373,900) by the sum of the total main > 2-inches cost in 2019 dollars (\$167,460,160).

The Distribution Mains account was separated into two cost categories: 2-inch and below and above 2 inches. Based on Company records, 62.31% of Distribution Mains are 2-inch and below. The smaller diameter, up to and including 2-inch diameter mains are primarily used to provide local service and are related to the backbone local distribution system and



PIEDMONT NATURAL GAS INC.**DISTRIBUTION STUDY**

should be recovered in a fixed monthly charge similar to the customer charge. Since most large customers are not served by a 2-inch or smaller sized pipe, this customer related portion is allocated to the Residential and Small Commercial rate classes based on their respective customer counts. The main costs $>2''$, 37.69%, is classified as customer and demand related. The customer related portion, 18.25% (37.69×48.42) is allocated to all customer classes using an equivalent customer based on the average use per customer of the large classes. The remainder of the mains $>2''$, 19.44% ($37.69 \times 51.58\%$) is allocated to customer classes based on design day demands.

62.31% of $\leq 2''$ Distribution Mains Feet to Total Feet – customer related

18.25% of $> 2''$ Distribution Mains Feet to Total Feet – customer related

19.44% of $> 2''$ Distribution Mains Feet to Total Feet – demand related

Note: The use of the minimum size equipment currently being installed will generally derive higher customer related portions of plant the account.



PIEDMONT NATURAL GAS INC.
DISTRIBUTION STUDY

IV. Implementation of the MDS Results in Class Cost of Service Study

The resulting demand and customer related percentages for the account 376 distribution mains, 19.44% and 80.56% (62.31%+18.25%) respectively, are used to classify the distribution plant account dollars. The demand portion of the account is typically allocated using a demand allocation factor.

The Distribution Mains account was separated into two cost categories: 2-inch and below and above 2 inches. The 2-inch and below account for 62.31% of Distribution Mains and are classified as customer related. Since most large customers are not served by a 2-inch or smaller sized pipe, this customer related portion, 62.31% is allocated to the Residential and Small Commercial rate classes based on their respective customer counts. The remaining customer related portion of mains greater than 2 inches, 18.25% ($37.69 \times 48.42\%$), is allocated on an adjusted customer allocation factor. The demand portion of mains greater than 2 inches is allocated to the customer classes based on class design day demands.

The adjusted customer allocation factor approach is to fully recognize that all mains greater than 2 inches results from the aggregation of loads and this results in the need for larger diameter mains. As a result, large diameter mains are a direct function of load and not customers. In order to achieve a more equitable allocation of these costs, a use per customer for the large customers is derived. This use per customer is then used to divide the consumption of each customer class that was assigned costs for 2-inch and below (Residential and Small Commercial) to derive an equivalent customer count for each of these classes. The classes other than those assigned cost for 2-inch and below will use their respective customer count for the development of the Mains above 2 inches customer allocation factor. See Schedule PMN-5 for the development of this allocation factor.



PIEDMONT NATURAL GAS INC.

DISTRIBUTION STUDY

V. Minimum Size System Study Results

Piedmont Natural Gas Inc. Tennessee Distribution Analysis Minimum Size System Calculation Account 376 - Distribution Mains						
Calculation of Customer Component Percentage for Mains > 2"						
Section A			2019 \$	Quantity	2019 \$	2019 \$
		Average Main	Total	Times	Total Cost	Total
	Quantity (5)	\$/Foot	Cost	Min Size	Customer Related	Cost
	Main Size	Section B col (f)	col (b) * col (c)	col (b) * 2" \$/Foot	<= 2"	col (b) > 2"
	(a)	(c)	(d)	(e)	(f)	(g)
1	Plastic Distribution Mains					
2	2" or Less	5,254,508	\$16.09	\$84,569,585	\$84,569,585	
3	Over 2" thru 4"	972,624	\$19.45	\$18,913,699	\$15,654,056	\$15,654,056
4	Over 4" thru 8"	320,000	\$23.63	\$7,560,536	\$5,150,290	\$5,150,290
5	Steel Distribution Mains					
6	2" or Less	8,168,556	\$21.04	\$171,867,390	\$131,470,229	
7	Over 2" thru 4"	2,151,811	\$22.58	\$48,582,757	\$34,632,695	\$34,632,695
8	Over 4" thru 8"	1,168,559	\$26.86	\$31,382,537	\$18,807,574	\$18,807,574
9	Over 8"	425,088	\$48.52	\$20,623,470	\$6,841,644	\$6,841,644
10	Total	18,461,145		\$383,499,975	\$297,126,074	\$216,039,814
11						\$81,086,260
12	Mains > 2"					
13	Customer >= % equals	48.42%	\$81,086,260	line 10, col (g)		
14	Demand % equals	51.58%	\$86,373,900	line 10, col (d) - line 10, col (e)		
15	Percentages applied to \$ of Mains > 2"	100.00%	\$167,460,160	Main dollars > 2"		
16			\$216,039,814	Main dollars <= 2"		
17			\$383,499,975	2019 total cost main dollars		
18						
19	Total Feet of Distribution Mains <= 2"	13,423,064				
20	Demand Feet of Distribution Steel Mains <= 2"	1,920,006	(line 6, col (d) - line 6, Col (e)) / line 6 (col (c))			
21	Net Customer Feet of Distribution Steel Mains <= 2	11,503,058				
22	Total Feet of Distribution Mains	18,461,145	80.56%			
23	% of <= 2" Dist Mains Feet to Total Feet	62.31%				
24	% of > 2" Dist Mains Feet to Total Feet	37.69%	18.25%	Customer related		
25			19.44%	Demand related		
Notes:						
(1) Minimum main size being installed is 2 inch plastic.						
(2) Customer component based on minimum size currently being installed (reflects current 2019 building practices).						
(3) Average installed costs include material and labor.						
(4) Main size dollars <= 2" is all customer related.						
(5) Main size dollars > 2" is demand and customer related.						
(6) Main footage source is DOT Report.						
Section B						
	Main Size	2016	2017	2018	2019	Average of
	(a)	(b)	(c)	(d)	(e)	Avg Cost/Ft (1)
						(f)
1	Plastic Distribution Mains					
2	2" or Less	\$15.11	\$14.83	\$17.37	\$17.07	\$16.09
3	Over 2" thru 4"	\$18.44	\$18.10	\$20.80	\$20.44	\$19.45
4	Over 4" thru 8"	\$22.96	\$22.53	\$25.48	\$23.54	\$23.63
5	Steel Distribution Mains					
6	2" or Less	\$19.94	\$19.57	\$22.52	\$22.13	\$21.04
7	Over 2" thru 4"	\$21.39	\$20.99	\$24.17	\$23.76	\$22.58
8	Over 4" thru 8"	\$25.40	\$24.93	\$28.79	\$28.30	\$26.86
9	Over 8" and over	\$45.69	\$44.85	\$52.21	\$51.32	\$48.52
10						
11	Total Average Cost	\$24.13	\$23.69	\$27.33	\$26.65	\$25.45
Notes:						
(1) Average of \$/Foot for years (2016-2019)						



PIEDMONT NATURAL GAS INC.

DISTRIBUTION STUDY

Piedmont Natural Gas Inc.							
Tennessee Distribution Analysis							
Minimum Size System Calculation							
Cost of New Distribution Mains							
Section C							
Mains Cost per ft \$ (material and labor) (1)							
Main Size (a)		Total Cost 2015 (b)	Total Cost 2016 (c)	Total Cost 2017 (d)	Total Cost 2018 (e)	Total Cost 2019 (f)	
1	Plastic Distribution Mains						
2	2"	unavailable	\$14.23	\$14.23	\$17.07	\$17.07	
3	4"	unavailable	\$17.37	\$17.37	\$20.44	\$20.44	
4	6"	unavailable	\$20.03	\$20.03	\$22.63	\$21.63	
5	8"	unavailable	\$23.21	\$23.21	\$27.45	\$25.45	
6	Steel Distribution Mains						
7	2"	unavailable	\$18.78	\$18.78	\$22.13	\$22.13	
8	4"	unavailable	\$20.14	\$20.14	\$23.76	\$23.76	
9	6"	unavailable	\$22.38	\$22.38	\$26.45	\$26.45	
10	8"	unavailable	\$25.46	\$25.46	\$30.15	\$30.15	
11	10"	unavailable	\$36.93	\$36.93	\$43.91	\$43.91	
12	12"	unavailable	\$49.13	\$49.13	\$58.72	\$58.72	
Notes:							
(1) Source file "PNG TN Distribution Mains_Response.xlsx"							
Section D							
Current Cost \$							
1	GDP-IPD, 2019=100 (1)	93.21%	94.17%	95.95%	98.29%	100.00%	
Mains Cost per ft \$ (material and labor)							
Main Size (a)		Total Cost 2015 (b)	Total Cost 2016 (c)	Total Cost 2017 (d)	Total Cost 2018 (e)	Total Cost 2019 (f)	Main Current Average Cost \$ per ft (g)
2	Plastic Distribution Mains						
3	2"	unavailable	\$15.11	\$14.83	\$17.37	\$17.07	\$16.09
4	4"	unavailable	\$18.44	\$18.10	\$20.80	\$20.44	\$19.45
5	6"	unavailable	\$21.27	\$20.88	\$23.02	\$21.63	\$21.70
6	8"	unavailable	\$24.65	\$24.19	\$27.93	\$25.45	\$25.55
7	Average 6"-8"		\$22.96	\$22.53	\$25.48	\$23.54	
8	Steel Distribution Mains						
9	2"	unavailable	\$19.94	\$19.57	\$22.52	\$22.13	\$21.04
10	4"	unavailable	\$21.39	\$20.99	\$24.17	\$23.76	\$22.58
11	6"	unavailable	\$23.76	\$23.32	\$26.91	\$26.45	\$25.11
12	8"	unavailable	\$27.03	\$26.53	\$30.68	\$30.15	\$28.60
13	Average 6"-8"		\$25.40	\$24.93	\$28.79	\$28.30	
14	10"	unavailable	\$39.21	\$38.49	\$44.68	\$43.91	\$41.57
15	12"	unavailable	\$52.17	\$51.20	\$59.74	\$58.72	\$55.46
16	Average 10"-12"		\$45.69	\$44.85	\$52.21	\$51.32	
Notes:							
(1) Source for Gross Domestic Product - Implicit Price Deflator is Bureau of Economic Analysis							



Exhibit PMN-8-COS

DESCRIPTION OF ALLOCATION FACTORS

The listing of all external allocation factors shown are in pages 31 to 34 of the Allocation Factor Table and pages 43 to 46 of the Ratio Table of Exhibit PMN-5-COS of the Piedmont Natural Gas Company, Inc. cost of service study.

DESCRIPTION OF ALLOCATION FACTORS**Reference for Internal Allocators Not Shown in Allocation Factor Table****External Allocators, Page 43**

1. DEMSTOR – Local Storage Allocator – Storage Function
This allocator is based on a remaining design day sales allocation factor developed for each rate class using total annual throughput. Allocator Ratio is on Page 43, line 5.
2. DEMTRAN – Transmission Allocator – Transmission Function
This allocator is based on the design day demands for each rate class. Allocator Ratio is on Page 43, line 9.
3. DEMA VG – Distribution Allocator – Distribution Function
This allocator is based on the annual sendout for each rate class and used for allocating Load Dispatching. Allocator Ratio is on Page 43, line 13.
4. DEMDISTM – Distribution Allocator Mains Above 2” – Distribution Mains Function
This allocator is based on design day demands developed for each rate class. Allocator Ratio is on Page 43, line 14.
5. DEMDIST – Distribution Allocator – Distribution Function
This allocator is based on design day demands developed for each rate class. Allocator Ratio is on Page 43, line 15.

External Allocators, Page 43

1. ESALES – Commodity Allocator – Commodity Other
This allocator is based on weather normalized sendout and used to allocate other purchased gas expenses to customer classes. Allocator Ratio is on Page 43, line 21.
2. EGASCOST – Commodity Allocator – Gas Costs
This allocator is used to allocate Direct Gas Costs based on the Direct Gas Cost Revenues billed by rate class. Allocator Ratio is on Page 43, line 23.
3. ENESTOR – Commodity Allocator – Commodity Other
This allocator is based on 3 month winter sales (Dec-Feb) and is used to allocate Cash Working Capital gas inventories. Allocator Ratio is on Page 43, line 25.

DESCRIPTION OF ALLOCATION FACTORS**Reference for Internal Allocators Not Shown in Allocation Factor Table****External Allocators, Page 45**

1. CUST376A – Acct 376 Mains Above 2 inches – Customer Mains Function
This allocator is based on the equivalent number of customers for smaller customers as discussed in the direct testimony. See Workpapers for details. Allocation Ratio is on Page 45, line 3.
2. CUST376B – Acct 376 Mains 2 inches and Below – Customer Mains Function
The allocator is based on the number of customers for Residential Service and Small General Service as discussed in the direct testimony. See Workpapers for details. Allocation Ratio is on Page 45, line 4.
3. CUST_380 – Acct 380 Gas Services – Customer Services Function
This allocator represents the direct assignment of Plant Acct 380 – Gas Services to the customer classes. See Workpapers for details. Allocation Ratio is on Page 45, line 6.
4. CUST_38185– Accts 381 through 385 Gas Meters, Regulators and Installation – Customer Meters and Regulators Function
This allocator represents the direct assignment of meters, regulators and installation plant accounts 381 through 385 to the customer classes. See Workpapers for detail. Allocation Ratio is on Page 45, line 7.
5. CUST902 – Acct 902 Meter Reading Expense – Customer Accounts Expense Function
This allocator was based on the number of meters by rate class with a weighting factor applied to daily read meters. Allocation Ratio is on Page 45, line 9.
6. CUST903 – Acct 903 Customer Records & Collection Expenses – Customer Accounts Expense Function
This allocator was based on the number of bills by rate class. Allocation Ratio is on Page 45, line 10.
7. CUST909 – Customer Service & Information Expenses – Customer Service & Information Function
This allocator was developed internally in the cost of service model. Since these costs are not totally related to the total number of customers or the amount of sales, a weighted allocation factor was developed. The allocator is based on a 50% weighting on the annual number of customers (Page 33, line 17) and a 50% weighting on the total annual throughput (Page 33, line 16). Allocation Ratio is on Page 45, line 11.

DESCRIPTION OF ALLOCATION FACTORS**Reference for Internal Allocators Not Shown in Allocation Factor Table****External Allocators, Page 24, continued**

8. CUST910 – Customer Assistance Expenses – Customer Service & Information Expense Function
This allocator was developed in the same manner as Account 909. Allocation Ratio is on Page 45, line 12.
9. CUST912 – Demonstrating and Selling Expenses – Sales Expense Function
This allocator was developed in the same manner as Account 909. Allocation Ratio is on Page 45, line 13.
10. CUST913 – Advertising Expenses – Sales Expense Function
This allocator was developed in the same manner as Account 909. Allocation Ratio is on Page 45, line 14.
11. CUST916 – Demonstrating and Selling Expenses – Sales Expense Function
This allocator was developed in the same manner as Account 909. Allocation Ratio is on Page 45, line 15.
12. CUSTDEP – Customer Deposits – Customer Other Function
This allocator represents the assignment of customer deposits to the Residential and Small General customer classes based on the number of customers. See Workpapers for detail. Allocation Ratio is on Page 45, line 21.

EXHIBIT PMN-9-COS

COS WORKPAPERS

Exhibit PMN-9-COS

INDEX TO COS WORKPAPERS

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3. Revenues and Billing Determinants	18 - 23
4. 30 Year Average Heating Degree Days	24
5. Loss Percentage	25
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PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)
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ALLOCATION FACTOR TABLE

1	CAPACITY RELATED						
2	-----						
3							
4	STORAGE						
5	LNG Storage - Remaining Design Day Sales Dem	DEMSTOR	3,276,046	2,168,630	745,297	292,601	68,998
6							
7							
8	TRANSMISSION						
9	Design Day Demands (Therms)	DEMTRAN	3,588,301	2,236,380	809,835	315,047	81,564
10							
11							
12	DISTRIBUTION						
13	Distribution Load Dispatching - Annual Sendout	DEMAVG	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514
14	Distribution Mains Above 2"	DEMDISTM	3,588,301	2,236,380	809,835	315,047	81,564
15	Distribution - Design Day Demands (Therms)	DEMDIST	3,588,301	2,236,380	809,835	315,047	81,564
16							
17							
18							
19	COMMODITY RELATED						
20	-----						
21	Annual Therms - Weather Normalized - Sendout	ESALES	339,980,814	131,496,220	60,474,772	22,648,852	8,074,514
22							
23	Cost of Gas - Commodity Gas Costs	EGASCOST	43,404,841	25,596,444	11,771,739	4,408,720	1,571,747
24	Cost of Gas - Demand Gas Costs		18,067,420	9,836,398	4,523,734	1,694,217	670,568
25	3 Month Winter Sales (Therms) Dec to Feb	ENESTOR	114,016,580	71,477,294	28,372,023	10,866,829	3,283,086
26							
27	Total Cost of Gas		61,472,261	35,432,842	16,295,472	6,102,937	2,242,315

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PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

ALLOC	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)	Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)
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ALLOCATION FACTOR TABLE

CAPACITY RELATED

STORAGE

LNG Storage - Remaining Design Day Sales Dem	DEMSTOR	0	0	520	0	0
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TRANSMISSION

Design Day Demands (Therms)	DEMTRAN	0	144,932	543	0	0
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DISTRIBUTION

Distribution Load Dispatching - Annual Sendout	DEMAVG	95,951,898	21,303,108	31,451	257,216	95,694,681
Distribution Mains Above 2"	DEMDISTM	0	144,932	543	0	0
Distribution - Design Day Demands (Therms)	DEMDIST	0	144,932	543	0	0

COMMODITY RELATED

Annual Therms - Weather Normalized - Sendout	ESALES	95,951,898	21,303,108	31,451	257,216	95,694,681
Cost of Gas - Commodity Gas Costs	EGASCOST	50,069	0	6,122	50,069	0
Cost of Gas - Demand Gas Costs		0	1,327,594	14,909	0	0
3 Month Winter Sales (Therms) Dec to Feb	ENESTOR	0	0	17,348	0	0
Total Cost of Gas		50,069	1,327,594	21,031	50,069	0

PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)
ALLOCATION FACTOR TABLE CONTINUED						
1	CUSTOMER RELATED					
2						
3	Acct 376 - Mains Above 2 Inches - Customer Rel	CUST376A	20,680	7,999	3,679	6,820
4	Acct 376 - Mains <= 2 Inches - Customer Related	CUST376B	2,317,204	2,104,399	212,805	0
5						
6	Acct 380-Service Investment	CUST_380	300,055,366	255,767,191	40,945,578	2,324,647
7	Accts 381-385-Meters & Regulators Investment	CUST_38185	56,563,479	41,702,632	11,328,365	2,208,104
8	Acct 902-Meter Reading Expense	CUST_902	206,443	175,367	21,401	5,430
9	Acct 903-Customer Rec Exp excl Collection Exp	CUST_903	193,851	175,367	17,734	568
10	Acct 909-Cust Serv & Inf Advertising Expense	CUST_909	1.0000	0.6457	0.1347	0.0348
11	Acct 910-Customer Assistance Expense	CUST_910	1.0000	0.6457	0.1347	0.0348
12	Acct 912-Demonstrating and Selling	CUST_912	1.0000	0.6457	0.1347	0.0348
13	Acct 913-Sales Advertising Expense	CUST_913	1.0000	0.6457	0.1347	0.0348
14	Acct 916-Miscellaneous Sales Expense	CUST_916	1.0000	0.6457	0.1347	0.0348
15						
16	Average Annual Firm Customers (50%)	CUST	0.5000	0.4523	0.0457	0.0015
17	Weather Normalized Annual Firm DT (50%)	ESALES	0.5000	0.1934	0.0889	0.0333
18	Weighted Customers and Sales		1.0000	0.6457	0.1347	0.0348
19						
20	Customer Deposits	CUSTDEP	193,100	175,367	17,734	0
21						
22						
23						
24	Average Annual Number of Customers	CUST	193,851	175,367	17,734	568
25	Average Annual Number of Bills		193,851	175,367	17,734	568
26	Average Number of Meters		193,892	175,367	17,734	596
27	Average Number of Daily Read Meters		592	0	173	228
28						
29						
30	Total Throughput 2" & Below		191,970,992	131,496,220	60,474,772	0
31	Total Throughput Above 2"		148,009,822	0	0	22,648,852
32	Total Throughput		339,980,814			
33	Customers 2" & Below		2,317,204	2,104,399	212,805	0
34	Customers Above 2"		9,003	0	0	6,820
35	Total Customers		2,326,207			619
36						
37	Use Per Customer 2" & Below		82.85			
38	Use Per Customer Above 2"		16,440.06			
39	Equivalent Customers 2" & Below		11,677			
40						
41	Customer Allocator Above 2"		20,680	7,999	3,679	6,820
42				11,677		
43						

PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

ALLOC	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)	Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)
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ALLOCATION FACTOR TABLE CONTINUED

1	CUSTOMER RELATED						
2	-----						
3	Acct 376 - Mains Above 2 Inches - Customer Rel	CUST376A	612	928	24	24	588
4	Acct 376 - Mains <= 2 Inches - Customer Related	CUST376B	0	0	0	0	0
5							
6	Acct 380-Service Investment	CUST_380	340,908	421,032	3,883	11,725	329,183
7	Accts 381-385-Meters & Regulators Investment	CUST_38185	392,038	544,965	20,622	13,748	378,289
8	Acct 902-Meter Reading Expense	CUST_902	1,266	1,735	67	44	1,222
9	Acct 903-Customer Rec Exp excl Collection Exp	CUST_903	51	77	2	2	49
10	Acct 909-Cust Serv & Inf Advertising Expense	CUST_909	0.1412	0.0315	0.0001	0.0004	0.1409
11	Acct 910-Customer Assistance Expense	CUST_910	0.1412	0.0315	0.0001	0.0004	0.1409
12	Acct 912-Demonstrating and Selling	CUST_912	0.1412	0.0315	0.0001	0.0004	0.1409
13	Acct 913-Sales Advertising Expense	CUST_913	0.1412	0.0315	0.0001	0.0004	0.1409
14	Acct 916-Miscellaneous Sales Expense	CUST_916	0.1412	0.0315	0.0001	0.0004	0.1409
15							
16	Average Annual Firm Customers (50%)	CUST	0.0001	0.0002	0.0000	0.0000	0.0001
17	Weather Normalized Annual Firm DT (50%)	ESALES	0.1411	0.0313	0.0000	0.0004	0.1407
18	Weighted Customers and Sales		0.1412	0.0315	0.0001	0.0004	0.1409
19							
20	Customer Deposits	CUSTDEP	0	0	0	0	0
21							
22							
23							
24	Average Annual Number of Customers	CUST	51	77	2	2	49
25	Average Annual Number of Bills		51	77	2	2	49
26	Average Number of Meters		58	81	3	2	56
27	Average Number of Daily Read Meters		57	78	3	2	55
28						44	
29							
30	Total Throughput 2" & Below		0	0	0	0	0
31	Total Throughput Above 2"		95,951,898	21,303,108	31,451	257,216	95,694,681
32	Total Throughput						
33	Customers 2" & Below		0	0	0	0	0
34	Customers Above 2"		612	928	24	24	588
35	Total Customers						
36							
37	Use Per Customer 2" & Below						
38	Use Per Customer Above 2"						
39	Equivalent Customers 2" & Below						
40							
41	Customer Allocator Above 2"		612	928	24	24	588
42							
43							

PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)
Annual Dekatherms - Weather Normalized	ESALES	1.00000	0.38678	0.17788	0.06662	0.02375
Average Annual Number of Customers	CUST	1.00000	0.90465	0.09148	0.00293	0.00027

PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

ALLOC		Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)	Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)
Annual Dekatherms - Weather Normalized	ESALES	0.28223	0.06266	0.00009	0.00076	0.28147
Average Annual Number of Customers	CUST	0.00026	0.00040	0.00001	0.00001	0.00025

PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)
Total Base Revenues excluding Special Contract		150,523,688				
REVENUES FROM SALES including Gas Costs		202,662,763	\$119,370,830	\$50,988,502	\$15,995,288	\$4,537,355
Customer Charge Revenue Winter - Nov to Mar		15,351,201	\$15,351,201			
Customer Charge Revenue Summer - Apr to Oct		16,471,865	\$16,471,865			
Customer Charge Revenue Annual		12,625,120	\$0	\$9,363,420	\$1,534,500	\$495,200
Base Therm Revenue Winter - Nov to Mar		47,665,589	\$29,178,084	\$13,382,437	\$5,105,068	
Base Therm Revenue Summer - Apr to Oct		14,051,447	\$7,019,342	\$5,172,639	\$1,859,466	
Integrity Management Revenue - Nov to Mar		24,558,054	\$14,647,406	\$6,144,425	\$1,517,688	\$328,096
Integrity Management Revenue - Apr to Oct		11,294,976	\$6,736,776	\$2,826,003	\$698,030	\$150,901
Gas Cost Demand Revenues - Nov to Mar	Gas Cost Revenues	11,893,584	\$7,621,164	\$3,092,650	\$1,179,770	
Gas Cost Demand Revenues - Apr to Oct	Gas Cost Revenues	4,160,765	\$2,215,234	\$1,431,084	\$514,447	
Gas Cost Commodity Revenue - Nov to Mar	Gas Cost Revenues	30,949,688	\$19,831,924	\$8,047,748	\$3,070,017	
Gas Cost Commodity Revenue - Apr to Oct	Gas Cost Revenues	10,827,215	\$5,764,520	\$3,723,991	\$1,338,704	
Demand Charge Revenue Annual		1,944,315				\$647,665
Base Revenue Annual		6,308,815				\$714,278
Minimum Margin Agreement Revenues		252,305				\$13,505
Gas Cost Demand Revenues - Annual	Gas Cost Revenues	2,013,071				\$670,568
Gas Cost Commodity Revenue - Annual	Gas Cost Revenues	1,627,938				\$1,571,747
Unprotected Excess ADIT Refund	ADIT Refund	(9,333,186)	(\$5,466,685)	(\$2,195,895)	(\$822,401)	(\$54,605)
Special Contract Transportation	Other Operating Rev	\$259,159				
Total Sales and Transportation		\$212,255,108				
Total Base Revenues including Special Contract		\$150,782,847				

REVENUE REQUIREMENT INPUTS

Therm Sales Winter - Nov to Mar	156,969,560	100,582,866	40,816,290	15,570,404	
Therm Sales Summer - Apr to Oct	54,913,094	29,236,295	18,887,207	6,789,592	
Annual Therm Sales	335,644,812	129,819,161	59,703,497	22,359,996	7,971,534
Customers Winter - Nov to Mar	879,725	879,725			
Customers Summer - Apr to Oct	1,224,674	1,224,674			
Annual Customers	2,326,207	2,104,399	212,805	6,820	619
Annual Billing Demands	243,039				80,958

PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

ALLOC	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)	Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)
Total Base Revenues excluding Special Contract					
REVENUES FROM SALES including Gas Costs	\$5,258,850	\$6,464,781	\$47,157	\$95,001	\$5,163,849
Customer Charge Revenue Winter - Nov to Mar	\$0				
Customer Charge Revenue Summer - Apr to Oct	\$0				
Customer Charge Revenue Annual	\$489,600	\$742,400		\$19,200	\$470,400
Base Therm Revenue Winter - Nov to Mar	\$0				
Base Therm Revenue Summer - Apr to Oct	\$0				
Integrity Management Revenue - Nov to Mar	\$1,033,648	\$879,915	\$6,876	\$3,193	\$1,030,456
Integrity Management Revenue - Apr to Oct	\$475,406	\$404,699	\$3,163	\$1,468	\$473,937
Gas Cost Demand Revenues - Nov to Mar	Gas Cost Revenues \$0				
Gas Cost Demand Revenues - Apr to Oct	Gas Cost Revenues \$0				
Gas Cost Commodity Revenue - Nov to Mar	Gas Cost Revenues \$0				
Gas Cost Commodity Revenue - Apr to Oct	Gas Cost Revenues \$0				
Demand Charge Revenue Annual	\$0	\$1,282,250	\$14,400		
Base Revenue Annual	\$3,859,015	\$1,733,187	\$2,334	\$22,811	\$3,836,204
Minimum Margin Agreement Revenues	\$0	\$238,800			
Gas Cost Demand Revenues - Annual	Gas Cost Revenues \$0	\$1,327,594	\$14,909		
Gas Cost Commodity Revenue - Annual	Gas Cost Revenues \$50,069		\$6,122	\$50,069	
Unprotected Excess ADIT Refund	ADIT Refund (\$648,888)	(\$144,065)	(\$648)	(\$1,739)	(\$647,148)
Special Contract Transportation	Other Operating Rev				
Total Sales and Transportation					
Total Base Revenues including Special Contract					

REVENUE REQUIREMENT INPUTS

Therm Sales Winter - Nov to Mar					
Therm Sales Summer - Apr to Oct					
Annual Therm Sales	94,728,159	21,031,415	31,050	253,936	94,474,223
Customers Winter - Nov to Mar					
Customers Summer - Apr to Oct					
Annual Customers	612	928	24	24	588
Annual Billing Demands	0	160,281	1,800		

PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

	ALLOC	TOTAL COMPANY (1)-1	Residential Service Rate 301 (2)	Small General Service Rate 302 (3)	Medium General Service Rate 352 (4)	Large General Service Rate 303 (5)
<u>UNCOLLECTIBLE ACCOUNTS ALLOCATOR</u>						
Base Revenue Uncollectibles 3 Year Average	Claim Rev less Gas	580,875	467,528	96,882	3,941	0
	Total Acct 904 Uncollectible Accounts	411,354	331,086	68,608	2,791	0
<u>LATE PAYMENT CHARGE ALLOCATOR</u>	Use Acct 904 Alloc	411,354	331,086	68,608	2,791	0
<u>ACCT 903 COLLECTION EXPENSE</u>		193,302				
<u>ACCT 903 COLLECTION EXPENSE ALLOCATOR</u>	Use Acct 904 Alloc	411,354	331,086	68,608	2,791	0

PIEDMONT NATURAL GAS COMPANY
GAS COST OF SERVICE STUDY - TENNESSEE
12 MONTHS ENDED DECEMBER 31, 2021

	ALLOC	Interruptible Service Rates 304 & 314 (6)	Firm Transportation Service Rate 313 (7)	Sales for Resale Rate 310 (8)	Interruptible Sales Service Rate 304 (9)-2	Interruptible Transportation Rate 314 (10)
<u>UNCOLLECTIBLE ACCOUNTS ALLOCATOR</u>						
Base Revenue Uncollectibles 3 Year Average	Claim Rev less Gas	1,399	11,125	0	0	1,399
Total Acct 904 Uncollectible Accounts		991	7,879	0	0	991
<u>LATE PAYMENT CHARGE ALLOCATOR</u>						
	Use Acct 904 Alloc	991	7,879	0	0	991
<u>ACCT 903 COLLECTION EXPENSE</u>						
<u>ACCT 903 COLLECTION EXPENSE ALLOCATOR</u>	Use Acct 904 Alloc	991	7,879	0	0	991

PIEDMONT NATURAL GAS COMPANY TN
 12 MONTHS ENDED DECEMBER 31, 2021
 Design Day Demand Therms

PERCENT UNACCT-SYSTEM 1.28%

DESIGN DAY DEMAND, Therms				ADJUSTED FOR LOSSES		
Customer Class	Total Design Day Demand	Total Design Day Base Demand	Total Design Day Remaining Dem	Total Design Day Demand	Total Design Day Base Demand	Total Design Day Remaining Dem
1 Residential Service 301	2,207,858	66,886	2,140,972	2,236,380	67,750	2,168,630
2 Small General Service 302	799,507	63,715	735,792	809,835	64,539	745,297
3 Medium General Serv 352	311,029	22,160	288,869	315,047	22,446	292,601
4 Large General Serv 303	80,523	12,405	68,118	81,564	12,566	68,998
5 Firm Trans Service 313	143,083	42,787	100,297	144,932	43,339	101,592
6 Sales for Resale 310	536	23	513	543	23	520
7 Interruptible Sales 304	0	0	0	0	0	0
8 Interruptible Trans 314	0	0	0	0	0	0
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28 Total	3,542,537	207,976	3,334,561	3,588,301	210,663	3,377,638
29 Total Firm	3,542,537	207,976	3,334,561	3,588,301	210,663	3,377,638
30 Total Sales	3,399,454	165,190	3,234,264	3,443,370	167,324	3,276,046
31 Total Transportation	143,083	42,787	100,297	144,932	43,339	101,592
32 Total Interruptible	-	-	-	-	-	-
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			3,542,537	3,588,301		

PIEDMONT NATURAL GAS COMPANY TN
12 MONTHS ENDED DECEMBER 31, 2021
Computation of Design Day Demand, Therms

<u>Therm Sales</u>		November	December	January	February	March	April	May	June	July	August	September	October	Consumption Summaries			
<u>Customer Class</u>		11	12	1	2	3	4	5	6	7	8	9	10	Annual Usage	5 Month Winter	7 Month Summer	5 mo. Wtr % of Annual
1	Residential Service 301	11,967,047	19,737,165	24,923,465	25,905,066	18,050,123	11,466,195	5,111,100	2,494,172	2,073,450	2,073,479	2,108,124	3,909,775	129,819,161	100,582,866	29,236,295	77.48%
2	Small General Service 302	5,340,611	8,004,764	9,827,453	10,177,959	7,465,503	5,209,428	3,025,783	2,123,847	1,977,811	1,972,545	1,985,209	2,592,584	59,703,497	40,816,290	18,887,207	68.36%
3	Medium General Serv 352	2,003,883	3,051,047	3,769,868	3,907,322	2,838,284	1,954,165	1,097,995	745,023	688,439	685,476	689,661	928,833	22,359,996	15,570,404	6,789,592	69.64%
4	Large General Serv 303	1,018,323	1,018,853	1,124,738	1,097,623	655,495	548,739	422,468	377,596	376,037	393,089	379,163	559,410	7,971,534	4,915,032	3,056,502	61.66%
5	Firm Trans Service 313	2,141,821	2,207,864	2,379,483	2,336,033	1,895,729	1,693,663	1,478,756	1,346,093	1,299,660	1,353,108	1,225,687	1,673,518	21,031,415	10,960,930	10,070,485	52.12%
6	Sales for Resale 310	4,918	5,103	6,129	5,895	3,338	988	542	500	675	751	762	1,449	31,050	25,383	5,667	81.75%
7	Interruptible Sales 304	34,525	34,024	28,722	29,104	19,015	13,788	9,094	12,359	9,547	2,845	29,494	31,419	253,936	145,390	108,546	57.25%
8	Interruptible Trans 314	9,279,366	9,278,585	9,812,975	9,363,806	8,051,612	7,438,097	7,026,618	6,622,729	6,857,489	6,714,492	6,440,096	7,588,358	94,474,223	45,786,344	48,687,879	48.46%
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28	Total	31,790,494	43,337,405	51,872,833	52,822,808	38,979,099	28,325,063	18,172,356	13,722,319	13,283,108	13,195,785	12,858,196	17,285,346	335,644,812	218,802,639	116,842,173	65.19%
29	Total Firm	22,476,603	34,024,796	42,031,136	43,429,898	30,908,472	20,873,178	11,136,644	7,087,231	6,416,072	6,478,448	6,388,606	9,665,569	240,916,653	172,870,905	68,045,748	71.76%
30	Total Sales	20,334,782	31,816,932	39,651,653	41,093,865	29,012,743	19,179,515	9,657,888	5,741,138	5,116,412	5,125,340	5,162,919	7,992,051	219,885,238	161,909,975	57,975,263	73.63%
31	Total Transportation	2,141,821	2,207,864	2,379,483	2,336,033	1,895,729	1,693,663	1,478,756	1,346,093	1,299,660	1,353,108	1,225,687	1,673,518	21,031,415	10,960,930	10,070,485	52.12%
32	Total Interruptible	9,313,891	9,312,609	9,841,697	9,392,910	8,070,627	7,451,885	7,035,712	6,635,088	6,867,036	6,717,337	6,469,590	7,619,777	94,728,159	45,931,734	48,796,425	48.49%
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PIEDMONT NATURAL GAS COMPANY TN
12 MONTHS ENDED DECEMBER 31, 2021
Computation of Design Day Demand, Therms

<u>Therm Sales Sendout Level</u>		November	December	January	February	March	April	May	June	July	August	September	October	Consumption Summaries			
<u>Customer Class</u>		<u>11</u> <u>2021</u>	<u>12</u> <u>2021</u>	<u>1</u> <u>2021</u>	<u>2</u> <u>2021</u>	<u>3</u> <u>2021</u>	<u>4</u> <u>2021</u>	<u>5</u> <u>2021</u>	<u>6</u> <u>2021</u>	<u>7</u> <u>2021</u>	<u>8</u> <u>2021</u>	<u>9</u> <u>2021</u>	<u>10</u> <u>2021</u>	<u>Annual</u> <u>Usage</u>	<u>5 Month</u> <u>Winter</u>	<u>7 Month</u> <u>Summer</u>	<u>5 mo. Wtr</u> <u>% of Annual</u>
1	Residential Service 301	12,121,642	19,992,138	25,245,437	26,239,719	18,283,302	11,614,320	5,177,127	2,526,393	2,100,236	2,100,265	2,135,358	3,960,283	131,496,220	101,882,238	29,613,982	77.48%
2	Small General Service 302	5,409,603	8,108,173	9,954,408	10,309,442	7,561,946	5,276,726	3,064,871	2,151,284	2,003,361	1,998,027	2,010,855	2,626,076	60,474,772	41,343,572	19,131,200	68.36%
3	Medium General Serv 352	2,029,770	3,090,462	3,818,569	3,957,798	2,874,950	1,979,410	1,112,179	754,648	697,333	694,331	698,570	940,832	22,648,852	15,771,549	6,877,303	69.64%
4	Large General Serv 303	1,031,478	1,032,015	1,139,268	1,111,802	663,963	555,828	427,925	382,474	380,895	398,167	384,062	566,636	8,074,514	4,978,527	3,095,987	61.66%
5	Firm Trans Service 313	2,169,490	2,236,386	2,410,222	2,366,211	1,920,219	1,715,542	1,497,859	1,363,482	1,316,450	1,370,588	1,241,521	1,695,137	21,303,108	11,102,528	10,200,580	52.12%
6	Sales for Resale 310	4,982	5,169	6,208	5,971	3,381	1,001	549	506	684	761	772	1,468	31,451	25,711	5,740	81.75%
7	Interruptible Sales 304	34,971	34,464	29,093	29,480	19,261	13,966	9,211	12,519	9,670	2,882	29,875	31,825	257,216	147,268	109,948	57.25%
8	Interruptible Trans 314	9,399,241	9,398,450	9,939,743	9,484,772	8,155,626	7,534,185	7,117,391	6,708,284	6,946,077	6,801,233	6,523,292	7,686,388	95,694,681	46,377,831	49,316,850	48.46%
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28	Total	32,201,177	43,897,256	52,542,949	53,505,195	39,482,648	28,690,979	18,407,114	13,899,589	13,454,705	13,366,254	13,024,304	17,508,645	339,980,814	221,629,225	118,351,589	65.19%
29	Total Firm	22,766,965	34,464,343	42,574,112	43,990,944	31,307,761	21,142,827	11,280,512	7,178,787	6,498,957	6,562,139	6,471,137	9,790,433	244,028,917	175,104,125	68,924,792	71.76%
30	Total Sales	20,597,475	32,227,957	40,163,890	41,624,733	29,387,542	19,427,284	9,782,652	5,815,304	5,182,508	5,191,551	5,229,616	8,095,295	222,725,809	164,001,597	58,724,212	73.63%
31	Total Transportation	2,169,490	2,236,386	2,410,222	2,366,211	1,920,219	1,715,542	1,497,859	1,363,482	1,316,450	1,370,588	1,241,521	1,695,137	21,303,108	11,102,528	10,200,580	52.12%
32	Total Interruptible	9,434,212	9,432,913	9,968,836	9,514,252	8,174,887	7,548,152	7,126,602	6,720,803	6,955,747	6,804,114	6,553,167	7,718,213	95,951,898	46,525,100	49,426,798	48.49%
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PIEDMONT NATURAL GAS COMPANY TN
12 MONTHS ENDED DECEMBER 31, 2021
Computation of Design Day Demand, Therms

Normal Degree Days														Total Yr's DD's
Customer Class		November 11 2021	December 12 2021	January 1 2021	February 2 2021	March 3 2021	April 4 2021	May 5 2021	June 6 2021	July 7 2021	August 8 2021	September 9 2021	October 10 2021	
1	Residential Service 301	323	570	749	780	521	306	99	14	0	0	1	60	3,424
2	Small General Service 302	323	570	749	780	521	306	99	14	0	0	1	60	3,424
3	Medium General Serv 352	323	570	749	780	521	306	99	14	0	0	1	60	3,424
4	Large General Serv 303	451	695	796	629	442	182	45	1	0	0	15	168	3,424
5	Firm Trans Service 313	451	695	796	629	442	182	45	1	0	0	15	168	3,424
6	Sales for Resale 310	451	695	796	629	442	182	45	1	0	0	15	168	3,424
7	Interruptible Sales 304	451	695	796	629	442	182	45	1	0	0	15	168	3,424
8	Interruptible Trans 314	451	695	796	629	442	182	45	1	0	0	15	168	3,424
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PIEDMONT NATURAL GAS COMPANY TN
12 MONTHS ENDED DECEMBER 31, 2021
Computation of Design Day Demand, Therms

Customers		November	December	January	February	March	April	May	June	July	August	September	October	Annual No.	5 Month	7 Month
Customer Class		11 2021	12 2021	1 2021	2 2021	3 2021	4 2021	5 2021	6 2021	7 2021	8 2021	9 2021	10 2021	Customers	Winter	Summer
1	Residential Service 301	175,881	177,507	175,057	175,447	175,833	175,906	175,393	174,860	174,830	174,576	174,423	174,686	2,104,399	879,725	1,224,674
2	Small General Service 302	17,735	17,943	17,839	17,899	17,884	17,869	17,754	17,634	17,602	17,546	17,549	17,551	212,805	89,300	123,505
3	Medium General Serv 352	568	575	572	574	573	573	569	565	564	562	562	563	6,820	2,862	3,958
4	Large General Serv 303	53	53	52	52	52	48	48	51	52	52	53	53	619	262	357
5	Firm Trans Service 313	78	76	76	76	76	80	79	78	77	77	78	77	928	382	546
6	Sales for Resale 310	2	2	2	2	2	2	2	2	2	2	2	2	24	10	14
7	Interruptible Sales 304	2	2	2	2	2	2	2	2	2	2	2	2	24	10	14
8	Interruptible Trans 314	49	49	49	49	49	49	49	49	49	49	49	49	588	245	343
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28	Total	194,368	196,207	193,649	194,101	194,471	194,529	193,896	193,241	193,178	192,866	192,718	192,983	2,326,207	972,796	1,353,411
29	Total Firm	194,317	196,156	193,598	194,050	194,420	194,478	193,845	193,190	193,127	192,815	192,667	192,932	2,325,595	972,541	1,353,054
30	Total Sales	194,239	196,080	193,522	193,974	194,344	194,398	193,766	193,112	193,050	192,738	192,589	192,855	2,324,667	972,159	1,352,508
31	Total Transportation	78	76	76	76	76	80	79	78	77	77	78	77	928	382	546
32	Total Interruptible	51	51	51	51	51	51	51	51	51	51	51	51	612	255	357
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PIEDMONT NATURAL GAS COMPANY TN
12 MONTHS ENDED DECEMBER 31, 2021
Computation of Design Day Demand, Therms

Use Per Customer		November	December	January	February	March	April	May	June	July	August	September	October		5 Month	7 Month
Customer Class		11	12	1	2	3	4	5	6	7	8	9	10	Annual	Winter	Summer
		2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021			
1	Residential Service 301	68	111	142	148	103	65	29	14	12	12	12	22	62	114	24
2	Small General Service 302	301	446	551	569	417	292	170	120	112	112	113	148	281	457	153
3	Medium General Serv 352	3,528	5,306	6,591	6,807	4,953	3,410	1,930	1,319	1,221	1,220	1,227	1,650	3,279	5,440	1,715
4	Large General Serv 303	19,214	19,224	21,630	21,108	12,606	11,432	8,801	7,404	7,231	7,559	7,154	10,555	12,878	18,760	8,562
5	Firm Trans Service 313	27,459	29,051	31,309	30,737	24,944	21,171	18,718	17,258	16,879	17,573	15,714	21,734	22,663	28,694	18,444
6	Sales for Resale 310	2,459	2,552	3,065	2,948	1,669	494	271	250	338	376	381	725	1,294	2,538	405
7	Interruptible Sales 304	17,263	17,012	14,361	14,552	9,508	6,894	4,547	6,180	4,774	1,423	14,747	15,710	10,581	14,539	7,753
8	Interruptible Trans 314	189,375	189,359	200,265	191,098	164,319	151,798	143,400	135,158	139,949	137,030	131,431	154,864	160,670	186,883	141,947
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28	Total	164	221	268	272	200	146	94	71	69	68	67	90	144	225	86
29	Total Firm	116	173	217	224	159	107	57	37	33	34	33	50	104	178	50
30	Total Sales	105	162	205	212	149	99	50	30	27	27	27	41	95	167	43
31	Total Transportation	27,459	29,051	31,309	30,737	24,944	21,171	18,718	17,258	16,879	17,573	15,714	21,734	22,663	28,694	18,444
32	Total Interruptible	182,625	182,600	192,974	184,175	158,248	146,115	137,955	130,100	134,648	131,712	126,855	149,407	154,785	180,124	136,685
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PIEDMONT NATURAL GAS COMPANY TN
12 MONTHS ENDED DECEMBER 31, 2021
Computation of Design Day Demand, Therms

Design Day Demands Calculation						
Customer Class		R-Square Greater Than 90%	Monthly Base Use per customer	Regression Prediction		R-Square >90% Load at 70.0
				Use per Deg Day per customer	Peak Month Customers	
1	Residential Service 301		12	0.17	175,447	100% 2,207,858
2	Small General Service 302		112	0.59	17,899	100% 799,507
3	Medium General Serv 352		1,218	7.17	574	100% 311,029
4	Large General Serv 303		7,523	18.59	52	93% 80,523
5	Firm Trans Service 313		17,366	18.74	76	96% 143,083
6	Sales for Resale 310		232	3.72	2	94% 536
7	Interruptible Sales 304		7,007	12.53	2	45% 0
8	Interruptible Trans 314		137,407	81.54	49	94% 0
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28	Total					3,542,537
29	Total Firm					3,542,537
30	Total Sales					3,399,454
31	Total Transportation					143,083
32	Total Interruptible					-
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Line No.	Rate Schedule	Test Period Actual Billing Determinants (A)	Normalized Adjustment (B)	Normalized Dekatherms (C)	Growth Adj Thru Attrition Period (D)	Attrition Period Billing Determinants (E)	"Clean" Total Rate (F)	Attrition Period Revenues Before Unprotected Excess ADIT Refund (G)	"Clean" Total Rate plus Unprotected Excess ADIT Refund Rate (H)	Attrition Period Revenues Including Unprotected Excess ADIT Refund (I)
1	301 - Residential Service									
2	Bills - Winter	859,496			20,229	879,725	\$17.45	\$15,351,201	\$17.45	\$15,351,201
3	Bills - Summer	1,184,228			40,446	1,224,674	\$13.45	\$16,471,865	\$13.45	\$16,471,865
4	DTs - Winter	8,666,725	1,174,863	9,841,588	216,698	10,058,287	\$5.6303	\$56,631,171	\$5.2092	\$52,395,627
5	DTs - Summer	2,554,752	272,324	2,827,076	96,554	2,923,630	\$5.1303	\$14,999,096	\$4.7092	\$13,767,956
6	Integrity Management Rider Revenues							\$21,384,181		\$21,384,181
7	301 / 343 - Residential Service									
8	Motor Vehicle Fuel									
9	Bills - Winter	-			-	-	\$17.45	\$0	\$17.45	\$0
10	Bills - Summer	-			-	-	\$13.45	\$0	\$13.45	\$0
11	DTs - Winter	-	-	-	-	-	\$5.6303	\$0	\$5.2092	\$0
12	DTs - Summer	-	-	-	-	-	\$5.1303	\$0	\$4.7092	\$0
13	<u>TOTAL RESIDENTIAL SERVICE</u>									
14	Bills - Annual	2,043,724			60,675	2,104,399				
15	DTs - Winter	8,666,725	1,174,863	9,841,588	216,698	10,058,287				
16	DTs - Summer	2,554,752	272,324	2,827,076	96,554	2,923,630				
17	DTs - Annual	11,221,477	1,447,187	12,668,664	313,252	12,981,916				
18	Revenues							\$124,837,515		\$119,370,830
19	302 - Small General Service									
20	Bills - Annual	210,508			2,297	212,805	\$44.00	\$9,363,420	\$44.00	\$9,363,420
21	DTs - Winter	3,629,276	412,102	4,041,377	40,252	4,081,629	\$6.0081	\$24,522,835	\$5.6403	\$23,021,612
22	DTs - Summer	1,786,045	83,830	1,869,874	18,846	1,888,721	\$5.4681	\$10,327,714	\$5.1003	\$9,633,042
23	Integrity Management Rider Revenues							\$8,970,428		\$8,970,428
24	302 / 343 - Small General Service									
25	Motor Vehicle Fuel									
26	Bills - Annual	-			-	-	\$44.00	-	\$44.00	-
27	DTs - Winter	-	-	-	-	-	\$6.0081	-	\$5.6403	-
28	DTs - Summer	-	-	-	-	-	\$5.4681	-	\$5.1003	-
29	352 - Medium General Service									
30	Bills - Annual	6,579			229	6,808	\$225.00	\$1,531,800	\$225.00	\$1,531,800
31	DTs - Winter	1,388,403	158,335	1,546,738	10,034	1,556,772	\$6.0081	\$9,353,242	\$5.6403	\$8,780,662
32	DTs - Summer	582,753	35,695	618,447	58,277	676,724	\$5.4681	\$3,700,393	\$5.1003	\$3,451,494
33	Integrity Management Rider Revenues							\$2,215,717		\$2,215,717
34	352 / 343 - Medium General Service									
35	Motor Vehicle Fuel									
36	Bills - Annual	12			-	12	\$225.00	\$2,700	\$225.00	\$2,700
37	DTs - Winter	268	-	268	-	268	\$6.0081	\$1,612	\$5.6403	\$1,513
38	DTs - Summer	2,236	-	2,236	-	2,236	\$5.4681	\$12,224	\$5.1003	\$11,402
39	<u>TOTAL SMALL & MEDIUM GENERAL SERVICE</u>									
40	Bills - Annual	217,099			2,526	219,625				
41	DTs - Winter	5,017,947	570,437	5,588,383	50,286	5,638,669				
42	DTs - Summer	2,371,033	119,525	2,490,557	77,123	2,567,680				
43	DTs - Annual	7,388,979	689,961	8,078,940	127,409	8,206,349				
44	Revenues							\$70,002,085		\$66,983,790

Line No.	Rate Schedule	Test Period Actual Billing Determinants (A)	Normalized Adjustment (B)	Normalized Dekatherms (C)	Growth Adj Thru Attrition Period (D)	Attrition Period Billing Determinants (E)	"Clean" Total Rate (F)	Attrition Period Revenues Before Unprotected Excess ADIT Refund (G)	"Clean" Total Rate plus Unprotected Excess ADIT Refund Rate (H)	Attrition Period Revenues Including Unprotected Excess ADIT Refund (I)
45	303 - Large General Sales Service									
46	Bills - Annual	607			-	607	\$800.00	\$485,600	\$800.00	\$485,600
47	DTs - Demand	79,641		79,641	598	80,238	\$16.2829	\$1,306,509	\$16.2829	\$1,306,509
48	DTs - First 1,500	548,791	-	548,791	8,928	557,719	\$2.8912	\$1,612,478	\$2.8227	\$1,574,274
49	DTs - Next 2,500	192,787	-	192,787	24,938	217,725	\$2.8183	\$613,613	\$2.7498	\$598,699
50	DTs - Next 5,000	5,263	-	5,263	3,500	8,763	\$2.5680	\$22,504	\$2.4995	\$21,904
51	DTs - Over 9,000	-	-	-	-	-	\$2.1994	\$0	\$2.1309	\$0
52	Integrity Management Rider Revenues							\$478,997		\$478,997
53	Minimum Margin Agreement Revenues							\$13,505		\$13,505
54	303 / 343 - Large General Sales Service									
55	Motor Vehicle Fuel									
56	Bills - Annual	12			-	12	\$800.00	\$9,600	\$800.00	\$9,600
57	DTs - Demand	1,448		1,448	(728)	720	\$16.2829	\$11,724	\$16.2829	\$11,724
58	DTs - First 1,500	18,000	-	18,000	(5,054)	12,946	\$2.8912	\$37,430	\$2.8227	\$36,543
59	DTs - Next 2,500	20,878	-	20,878	(20,878)	0	\$2.8183	\$0	\$2.7498	\$0
60	DTs - Next 5,000	-	-	-	-	-	\$2.5680	\$0	\$2.4995	\$0
61	DTs - Over 9,000	-	-	-	-	-	\$2.1994	\$0	\$2.1309	\$0
62	304 - Interruptible General Sales Service									
63	Bills - Annual	24			-	24	\$800.00	\$19,200	\$800.00	\$19,200
64	DTs - First 1,500	18,010	-	18,010	-	18,010	\$2.8912	\$52,069	\$2.8227	\$50,835
65	DTs - Next 2,500	7,384	-	7,384	-	7,384	\$2.8183	\$20,811	\$2.7498	\$20,305
66	DTs - Next 5,000	-	-	-	-	-	\$2.5680	\$0	\$2.4995	\$0
67	DTs - Over 9,000	-	-	-	-	-	\$2.1994	\$0	\$2.1309	\$0
68	Integrity Management Rider Revenues							\$4,661		\$4,661
69	304 / 343 - Interruptible General Sales Service									
70	Motor Vehicle Fuel									
71	Bills - Annual	-			-	-	\$800.00	\$0	\$800.00	\$0
72	DTs - First 1,500	-	-	-	-	-	\$2.8912	\$0	\$2.8227	\$0
73	DTs - Next 2,500	-	-	-	-	-	\$2.8183	\$0	\$2.7498	\$0
74	DTs - Next 5,000	-	-	-	-	-	\$2.5680	\$0	\$2.4995	\$0
75	DTs - Over 9,000	-	-	-	-	-	\$2.1994	\$0	\$2.1309	\$0
76	313 - Firm Transportation Service									
77	Bills - Annual	892			-	892	\$800.00	\$713,600	\$800.00	\$713,600
78	DTs - Demand	150,547		150,547	-	150,547	\$16.2829	\$2,451,347	\$16.2829	\$2,451,347
79	DTs - First 1,500	1,021,090	-	1,021,090	-	1,021,090	\$0.9195	\$938,892	\$0.8510	\$868,947
80	DTs - Next 2,500	603,062	-	603,062	-	603,062	\$0.8466	\$510,552	\$0.7781	\$469,243
81	DTs - Next 5,000	245,047	-	245,047	-	245,047	\$0.5963	\$146,121	\$0.5278	\$129,336
82	DTs - Over 9,000	26,964	-	26,964	-	26,964	\$0.2277	\$6,140	\$0.1592	\$4,293
83	Integrity Management Rider Revenues							\$1,284,614		\$1,284,614
84	Minimum Margin Agreement Revenues							238,800		238,800
85	313 / 343 - Firm Transportation Service									
86	Motor Vehicle Fuel									
87	Bills - Annual	24			12	36	\$800.00	\$28,800	\$800.00	\$28,800
88	DTs - Demand	8,915		8,915	819	9,734	\$16.2829	\$158,498	\$16.2829	\$158,498
89	DTs - First 1,500	27,944	-	27,944	26,056	54,000	\$0.9195	\$49,653	\$0.8510	\$45,954
90	DTs - Next 2,500	30,000	-	30,000	10,200	40,200	\$0.8466	\$34,033	\$0.7781	\$31,280
91	DTs - Next 5,000	60,000	-	60,000	-	60,000	\$0.5963	\$35,778	\$0.5278	\$31,668
92	DTs - Over 9,000	52,780	-	52,780	-	52,780	\$0.2277	\$12,018	\$0.1592	\$8,403

Line No.	Rate Schedule	Test Period Actual Billing Determinants (A)	Normalized Adjustment (B)	Normalized Dekatherms (C)	Growth Adj Thru Attrition Period (D)	Attrition Period Billing Determinants (E)	"Clean" Total Rate (F)	Attrition Period Revenues Before Unprotected Excess ADIT Refund (G)	"Clean" Total Rate plus Unprotected Excess ADIT Refund Rate (H)	Attrition Period Revenues Including Unprotected Excess ADIT Refund (I)
93	314 - Interruptible Transportation Service									
94	Bills - Annual	588			-	588	\$800.00	\$470,400	\$800.00	\$470,400
95	DTs - First 1,500	828,004	-	828,004	-	828,004	\$0.9195	\$761,349	\$0.8510	\$704,631
96	DTs - Next 2,500	1,092,995	-	1,092,995	-	1,092,995	\$0.8466	\$925,330	\$0.7781	\$850,460
97	DTs - Next 5,000	1,156,793	-	1,156,793	25,405	1,182,198.0	\$0.5963	\$704,945	\$0.5278	\$623,964
98	DTs - Over 9,000	6,239,649	-	6,239,649	104,577	6,344,226	\$0.2277	\$1,444,580	\$0.1592	\$1,010,001
99	Integrity Management Rider Revenues							\$1,504,393		\$1,504,393
100	314 / 343 - Interruptible Transportation Service									
101	Motor Vehicle Fuel									
102	Bills - Annual	-			-	-	\$800.00	\$0	\$800.00	\$0
103	DTs - First 1,500	-	-	-	-	-	\$0.9195	\$0	\$0.8510	\$0
104	DTs - Next 2,500	-	-	-	-	-	\$0.8466	\$0	\$0.7781	\$0
105	DTs - Next 5,000	-	-	-	-	-	\$0.5963	\$0	\$0.5278	\$0
106	DTs - Over 9,000	-	-	-	-	-	\$0.2277	\$0	\$0.1592	\$0
107	310 - Resale Service									
108	Bills - Annual	24				24				
109	DTs - Demand	1,800	-	1,800	-	1,800	\$16.2829	\$29,309	\$16.2829	\$29,309
110	DTs - Annual	3,105	-	3,105	-	3,105	\$2.7235	\$8,456	\$2.5149	\$7,809
111	Integrity Management Rider Revenues							\$10,039		\$10,039
112	310 / 343- Resale Service									
113	Motor Vehicle Fuel									
114	Bills - Annual									
115	DTs - Demand	-	-	-	-	-	\$16.2829	\$0	\$16.2829	\$0
116	DTs - Annual	-	-	-	-	-	\$2.7235	\$0	\$2.5149	\$0
117	TOTAL TARIFF LARGE VOLUME									
118	Bills - Annual	2,171	-	-	12	2,183				
119	DTs - Demand	242,351	-	242,351	689	243,039				
120	DTs - Annual	12,198,543	-	12,198,543	177,673	12,376,216				
121	Revenues							\$17,156,348		\$16,308,142
122	Special Contracts									
123	Bills - Annual	12				12				
124	DTs - Annual	603,311	-	603,311	-	603,311		\$259,159		\$259,159
125	GRAND TOTAL - ALL TARIFF & SPECIAL CONTRACT									
126	Bills - Annual	2,263,006	0	0	63,213	2,326,219				
127	DTs - Demand	242,351	0	242,351	689	243,039				
128	DTs - Annual	31,412,310	2,137,148	33,549,459	618,334	34,167,792				
129	Revenues							\$212,255,107		\$202,921,922
130	SALES AND TRANSPORTATION	<i>Dts</i>	<i>Dts</i>	<i>Dts</i>	<i>Dts</i>	<i>Dts</i>				
131	Total Sales	19,424,673	2,137,148	21,561,822	452,096	22,013,917		199,576,105		191,034,133
132	Total Transportation	11,987,637	0	11,987,637	166,238	12,153,875		12,679,002		11,887,788
133	Total Annual	31,412,310	2,137,148	33,549,459	618,334	34,167,792		\$212,255,107		\$202,921,922

Line No.	Rate Schedule	Current Base Margin Rate Component (J)	Attrition Period Base Margin Revenues (K)	Current COG Demand Rate Component (L)	Attrition Period COG Demand Revenues (M)	Current COG Commodity Rate Component (N)	Attrition Period COG Commodity Revenues (O)	Current Unprotected Excess ADIT Refund Rate Component (P)	Attrition Period Unprotected Excess ADIT Refund Revenues (Q)
1	301 - Residential Service								
2	Bills - Winter	\$17.45	\$15,351,201						
3	Bills - Summer	\$13.45	\$16,471,865						
4	DTs - Winter	\$2.9009	\$29,178,084	\$0.7577	\$7,621,164	\$1.9717	\$19,831,924	(\$0.4211)	(\$4,235,544)
5	DTs - Summer	\$2.4009	\$7,019,342	\$0.7577	\$2,215,234	\$1.9717	\$5,764,520	(\$0.4211)	(\$1,231,140)
6	Integrity Management Rider Revenues		\$21,384,181						
7	301 / 343 - Residential Service								
8	Motor Vehicle Fuel								
9	Bills - Winter	\$17.45	\$0						
10	Bills - Summer	\$13.45	\$0						
11	DTs - Winter	\$2.9009	\$0	\$0.7577	\$0	\$1.9717	\$0	(\$0.4211)	\$0
12	DTs - Summer	\$2.4009	\$0	\$0.7577	\$0	\$1.9717	\$0	(\$0.4211)	\$0
13	<u>TOTAL RESIDENTIAL SERVICE</u>								
14	Bills - Annual								
15	DTs - Winter								
16	DTs - Summer								
17	DTs - Annual								
18	Revenues		\$89,404,673		\$9,836,398		\$25,596,444		(\$5,466,685)
19	302 - Small General Service								
20	Bills - Annual	\$44.00	\$9,363,420						
21	DTs - Winter	\$3.2787	\$13,382,437	\$0.7577	\$3,092,650	\$1.9717	\$8,047,748	(\$0.3678)	(\$1,501,223)
22	DTs - Summer	\$2.7387	\$5,172,639	\$0.7577	\$1,431,084	\$1.9717	\$3,723,991	(\$0.3678)	(\$694,671)
23	Integrity Management Rider Revenues		\$8,970,428						
24	302 / 343 - Small General Service								
25	Motor Vehicle Fuel								
26	Bills - Annual	\$44.00	-						
27	DTs - Winter	\$3.2787	-	\$0.7577	-	\$1.9717	-	(\$0.3678)	\$0
28	DTs - Summer	\$2.7387	-	\$0.7577	-	\$1.9717	-	(\$0.3678)	\$0
29	352 - Medium General Service								
30	Bills - Annual	\$225.00	\$1,531,800						
31	DTs - Winter	\$3.2787	\$5,104,189	\$0.7577	\$1,179,566	\$1.9717	\$3,069,488	(\$0.3678)	(\$572,581)
32	DTs - Summer	\$2.7387	\$1,853,343	\$0.7577	\$512,754	\$1.9717	\$1,334,296	(\$0.3678)	(\$248,899)
33	Integrity Management Rider Revenues		\$2,215,717						
34	352 / 343 - Medium General Service								
35	Motor Vehicle Fuel								
36	Bills - Annual	\$225.00	\$2,700						
37	DTs - Winter	\$3.2787	\$880	\$0.7577	\$203	\$1.9717	\$529	(\$0.3678)	(\$99)
38	DTs - Summer	\$2.7387	\$6,122	\$0.7577	\$1,694	\$1.9717	\$4,408	(\$0.3678)	(\$822)
39	<u>TOTAL SMALL & MEDIUM GENERAL SERVICE</u>								
40	Bills - Annual								
41	DTs - Winter								
42	DTs - Summer								
43	DTs - Annual								
44	Revenues		\$47,603,676		\$6,217,951		\$16,180,459		(\$3,018,295)

Line No.	Rate Schedule	Current Base Margin Rate Component (J)	Attrition Period Base Margin Revenues (K)	Current COG Demand Rate Component (L)	Attrition Period COG Demand Revenues (M)	Current COG Commodity Rate Component (N)	Attrition Period COG Commodity Revenues (O)	Current Unprotected Excess ADIT Refund Rate Component (P)	Attrition Period Unprotected Excess ADIT Refund Revenues (Q)
45	303 - Large General Sales Service								
46	Bills - Annual	\$800.00	\$485,600						
47	DTs - Demand	\$8.0000	\$641,905	8.28290	\$664,604				
48	DTs - First 1,500	\$0.9195	\$512,823			\$1.9717	\$1,099,655	(\$0.0685)	(\$38,204)
49	DTs - Next 2,500	\$0.8466	\$184,326			\$1.9717	\$429,288	(\$0.0685)	(\$14,914)
50	DTs - Next 5,000	\$0.5963	\$5,226			\$1.9717	\$17,279	(\$0.0685)	(\$600)
51	DTs - Over 9,000	\$0.2277	\$0			\$1.9717	\$0	(\$0.0685)	\$0
52	Integrity Management Rider Revenues		\$478,997						
53	Minimum Margin Agreement Revenues		\$13,505						
54	303 / 343 - Large General Sales Service								
55	Motor Vehicle Fuel								
56	Bills - Annual	\$800.00	\$9,600						
57	DTs - Demand	\$8.0000	\$5,760	8.28290	\$5,964				
58	DTs - First 1,500	\$0.9195	\$11,904			\$1.9717	\$25,526	(\$0.0685)	(\$887)
59	DTs - Next 2,500	\$0.8466	\$0			\$1.9717	\$0	(\$0.0685)	\$0
60	DTs - Next 5,000	\$0.5963	\$0			\$1.9717	\$0	(\$0.0685)	\$0
61	DTs - Over 9,000	\$0.2277	\$0			\$1.9717	\$0	(\$0.0685)	\$0
62	304 - Interruptible General Sales Service								
63	Bills - Annual	\$800.00	\$19,200						
64	DTs - First 1,500	\$0.9195	\$16,560			\$1.9717	\$35,509	(\$0.0685)	(\$1,234)
65	DTs - Next 2,500	\$0.8466	\$6,251			\$1.9717	\$14,559	(\$0.0685)	(\$506)
66	DTs - Next 5,000	\$0.5963	\$0			\$1.9717	\$0	(\$0.0685)	\$0
67	DTs - Over 9,000	\$0.2277	\$0			\$1.9717	\$0	(\$0.0685)	\$0
68	Integrity Management Rider Revenues		\$4,661						
69	304 / 343 - Interruptible General Sales Service								
70	Motor Vehicle Fuel								
71	Bills - Annual	\$800.00	\$0						
72	DTs - First 1,500	\$0.9195	\$0			\$1.9717	\$0	(\$0.0685)	\$0
73	DTs - Next 2,500	\$0.8466	\$0			\$1.9717	\$0	(\$0.0685)	\$0
74	DTs - Next 5,000	\$0.5963	\$0			\$1.9717	\$0	(\$0.0685)	\$0
75	DTs - Over 9,000	\$0.2277	\$0			\$1.9717	\$0	(\$0.0685)	\$0
76	313 - Firm Transportation Service								
77	Bills - Annual	\$800.00	\$713,600						
78	DTs - Demand	\$8.0000	\$1,204,378	8.28290	\$1,246,968				
79	DTs - First 1,500	\$0.9195	\$938,892			-	\$0	(\$0.0685)	(\$69,945)
80	DTs - Next 2,500	\$0.8466	\$510,552			-	\$0	(\$0.0685)	(\$41,310)
81	DTs - Next 5,000	\$0.5963	\$146,121			-	\$0	(\$0.0685)	(\$16,786)
82	DTs - Over 9,000	\$0.2277	\$6,140			-	\$0	(\$0.0685)	(\$1,847)
83	Integrity Management Rider Revenues		\$1,284,614						
84	Minimum Margin Agreement Revenues		\$238,800						
85	313 / 343 - Firm Transportation Service								
86	Motor Vehicle Fuel								
87	Bills - Annual	\$800.00	\$28,800						
88	DTs - Demand	\$8.0000	\$77,872	8.28290	\$80,626				
89	DTs - First 1,500	\$0.9195	\$49,653			-	\$0	(\$0.0685)	(\$3,699)
90	DTs - Next 2,500	\$0.8466	\$34,033			-	\$0	(\$0.0685)	(\$2,754)
91	DTs - Next 5,000	\$0.5963	\$35,778			-	\$0	(\$0.0685)	(\$4,110)
92	DTs - Over 9,000	\$0.2277	\$12,018			-	\$0	(\$0.0685)	(\$3,615)

Line No.	Rate Schedule	Current Base Margin Rate Component (J)	Attrition Period Base Margin Revenues (K)	Current COG Demand Rate Component (L)	Attrition Period COG Demand Revenues (M)	Current COG Commodity Rate Component (N)	Attrition Period COG Commodity Revenues (O)	Current Unprotected Excess ADIT Refund Rate Component (P)	Attrition Period Unprotected Excess ADIT Refund Revenues (Q)
93	314 - Interruptible Transportation Service								
94	Bills - Annual	\$800.00	\$470,400						
95	DTs - First 1,500	\$0.9195	\$761,349			-	\$0	(\$0.0685)	(\$56,718)
96	DTs - Next 2,500	\$0.8466	\$925,330			-	\$0	(\$0.0685)	(\$74,870)
97	DTs - Next 5,000	\$0.5963	\$704,945			-	\$0	(\$0.0685)	(\$80,981)
98	DTs - Over 9,000	\$0.2277	\$1,444,580			-	\$0	(\$0.0685)	(\$434,579)
99	Integrity Management Rider Revenues		\$1,504,393						
100	314 / 343 - Interruptible Transportation Service								
101	Motor Vehicle Fuel								
102	Bills - Annual	\$800.00	\$0						
103	DTs - First 1,500	\$0.9195	\$0			-	\$0	(\$0.0685)	\$0
104	DTs - Next 2,500	\$0.8466	\$0			-	\$0	(\$0.0685)	\$0
105	DTs - Next 5,000	\$0.5963	\$0			-	\$0	(\$0.0685)	\$0
106	DTs - Over 9,000	\$0.2277	\$0			-	\$0	(\$0.0685)	\$0
107	310 - Resale Service								
108	Bills - Annual								
109	DTs - Demand	8.0000	\$14,400	8.2829	\$14,909				
110	DTs - Annual	0.7518	\$2,334			1.97170	\$6,122	(\$0.2086)	(\$648)
111	Integrity Management Rider Revenues		\$ 10,039						
112	310 / 343- Resale Service								
113	Motor Vehicle Fuel								
114	Bills - Annual								
115	DTs - Demand	8.0000	\$0	8.2829	\$0				
116	DTs - Annual	0.7518	\$0			1.97170	\$0	(\$0.2086)	\$0
117	<u>TOTAL TARIFF LARGE VOLUME</u>								
118	Bills - Annual								
119	DTs - Demand								
120	DTs - Annual								
121	Revenues		\$13,515,339		\$2,013,071		\$1,627,938		(\$848,206)
122	Special Contracts								
123	Bills - Annual								
124	DTs - Annual		\$259,159		0		0		
125	<u>GRAND TOTAL - ALL TARIFF & SPECIAL CONTRACT</u>								
126	Bills - Annual								
127	DTs - Demand								
128	DTs - Annual								
129	Revenues		\$150,782,847		\$18,067,420		\$43,404,841		(\$9,333,186)
130	SALES AND TRANSPORTATION								
131	Total Sales		139,431,439		16,739,826		43,404,841		(8,541,972)
132	Total Transportation		11,351,408		1,327,594		-		(791,214)
133	Total Annual		\$150,782,847		\$18,067,420		\$43,404,841		(\$9,333,186)

Billing Cycle HDD 30 Year Average	
April	306.1
May	99.2
June	13.8
July	-
August	0.1
September	1.3
October	60.4
November	322.5
December	570.2
January	749.2
February	779.5
March	521.2
Winter	2,942.6
Summer	480.9
Total	3,423.5

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Calendar Month HDD 30 year Averag	
April	182.1
May	45.0
June	1.2
July	-
August	0.1
September	14.8
October	167.9
November	451.2
December	695.0
January	795.6
February	628.5
March	442.1
Winter	3,012.4
Summer	411.1
Total	3,423.5

Piedmont Natural Gas Company, Inc.
COS DR#11 Losses
Tennessee Operations

Request: A calculation of the average TN losses for the last 3 years is requested. The calculation should be based on fiscal periods ending in the summer months such as August where sendout is flat due to the absence of heating load.

Data from Cost of Gas Actuals	Purchases	Sales	Non-Utility CNG Sales	Company Usage	LAUF Experienced	Unbilled Adjustment	OSS	LAUF %	Effective
September 2016 - August 2017 3 Yr Avg	62,906,754	61,905,702	108,515	65,721	651,540	175,276	7,402,864	1.1739%	September 2017 - August 2018
September 2017 - August 2018 3 Yr Avg	62,869,774	61,751,283	123,838	69,161	755,733	169,759	7,876,563	1.3742%	September 2018 - August 2019
September 2018 - August 2019 3 Yr Avg	66,568,443	65,085,211	122,809	73,655	751,759	535,009	7,746,273	1.2780%	September 2019 - August 2020
Three Year Average								1.2754%	

Piedmont calculates LAUF based on known purchases, sales and Company use to determine the estimated line loss. Due to fluctuations in the timing of purchases and sales throughout the year, we only calculate the line loss percentage on an annual basis (currently using a three year average of gas purchases, sales and company use data).

Piedmont Natural Gas Company, Inc.
Tennessee
Service Replacement Costs

Tariff	Rate Class	Avg Service Length in ft	Service Cost \$ / ft	Avg Cost per Service	Attrition Adjusted Active Services	Total Service Cost
RS 301	Residential Service	92	\$16.48	\$1,518.85	168,395	\$255,767,191
RS 302	Small General Service	146	\$16.48	\$2,412.08	16,975	\$40,945,578
RS 352	Medium General Service	240	\$17.08	\$4,097.50	567	\$2,324,647
RS 303	Firm General Sales	281	\$17.74	\$4,984.41	51	\$252,128
RS 304	Interruptible General Sales	330	\$17.74	\$5,862.35	2	\$11,725
RS 313	Firm Transportation	246	\$23.01	\$5,664.11	74	\$421,032
RS 314	Interruptible Transportation	292	\$23.01	\$6,718.02	49	\$329,183
RS 310	Resale Service	76	\$25.42	\$1,941.41	2	\$3,883
Total					186,116	\$300,055,366

Piedmont Natural Gas Company, Inc.
Tennessee Meter Costs

Meter		Installation		TOTAL METERS BY RATE SCHEDULE										
Meter Code	Unit Cost	Unit Cost		301	302	352	303	304	313	314		310	373	Total Meters
114	\$ 139	\$ 66		58,831	2,873	-	-	-	-	-		-	-	61,704
115	\$ 139	\$ 66		2,011	112	-	-	-	-	-		-	-	2,123
122	\$ 139	\$ 66		3,963	189	-	-	-	-	-		-	-	4,152
124	\$ 139	\$ 66		88,134	5,368	-	-	-	-	-		-	-	93,502
128	\$ 139	\$ 66		4,845	326	-	-	-	-	-		-	-	5,171
136	\$ 139	\$ 66		1,875	81	-	-	-	1	-		-	-	1,957
325	\$ 512	\$ 96		6,699	1,963	4	-	-	-	-		-	-	8,666
326	\$ 208	\$ 96		8,874	1,874	1	-	-	-	-		-	-	10,749
327	\$ 765	\$ 96		189	737	4	-	-	-	-		-	-	930
333	\$ 208	\$ 96		213	212	-	-	-	-	-		-	-	425
334	\$ 765	\$ 96		48	136	-	-	-	-	-		-	-	184
342	\$ 208	\$ 480		1,836	230	-	-	-	-	-		-	-	2,066
343	\$ 765	\$ 480		1,048	4,239	131	-	-	-	-		-	-	5,418
350	\$ 765	\$ 480		125	418	17	-	-	-	-		-	-	560
412	\$ 1,462	\$ 960		-	2	-	-	-	-	-		-	-	2
413	\$ 1,930	\$ 960		-	1	2	-	-	-	-		-	-	3
414	\$ 2,239	\$ 960		-	2	2	-	-	-	-		-	-	4
425	\$ 1,462	\$ 960		-	1	-	-	-	-	-		-	-	1
471	\$ 1,226	\$ 960		-	111	30	-	-	-	-		-	-	141
472	\$ 1,462	\$ 960		-	155	106	1	-	1	-		-	-	263
473	\$ 1,930	\$ 960	1	36	29	-	-	-	-	1		-	-	67
474	\$ 2,239	\$ 960	-	23	16	-	-	-	-	-		-	-	39
475	\$ 2,898	\$ 960	-	1	1	-	-	-	-	-		-	-	2
482	\$ 1,226	\$ 960	-	9	3	-	-	-	-	-		-	-	12
483	\$ 1,462	\$ 960	-	6	1	-	-	-	-	-		-	-	7
484	\$ 1,930	\$ 960	-	-	1	-	-	-	-	-		-	-	1
801	\$ 4,474	\$ 2,400	-	32	38	17	-	-	26	5		1	-	119
802	\$ 4,474	\$ 2,400	-	20	43	15	-	-	23	16		1	1	119
803	\$ 4,474	\$ 2,400	-	2	2	2	-	-	3	4		-	-	13
805	\$ 4,474	\$ 2,400	-	11	11	9	1	-	7	4		-	-	43
806	\$ 4,474	\$ 2,400	-	3	10	9	1	-	16	14		1	1	55
807	\$ 4,474	\$ 2,400	-	-	2	1	-	-	2	7		-	-	12
808	\$ 4,474	\$ 2,400	-	-	-	-	-	-	-	2		-	-	2
809	\$ 3,581	\$ 2,400	-	1	-	-	-	-	1	-		-	-	2
820	\$ 3,581	\$ 2,400	-	2	2	-	-	-	-	-		-	-	4
821	\$ 3,581	\$ 2,400	-	-	2	-	-	-	-	-		-	-	2
860	\$ 3,581	\$ 2,400	-	1	-	-	-	-	-	-		-	-	1
864	\$ 3,581	\$ 2,400	-	1	-	-	-	-	-	-		-	-	1
874	\$ 3,581	\$ 2,400	-	-	-	-	-	-	-	3		-	-	3
881	\$ 3,581	\$ 2,400	-	44	54	-	-	-	-	-		-	-	98
882	\$ 3,581	\$ 2,400	-	2	1	-	-	-	-	-		-	-	3
883	\$ 3,581	\$ 2,400	-	7	9	-	-	-	-	-		-	-	16
884	\$ 3,581	\$ 2,400	-	2	-	-	-	-	-	-		-	-	2
889	\$ 3,581	\$ 2,400	-	3	10	-	-	-	-	-		-	-	13
990	\$ 3,581	\$ 2,400	-	1	-	-	-	-	-	-		-	-	1
991	\$ 3,581	\$ 2,400	-	40	41	-	-	-	-	-		-	-	81
992	\$ 3,581	\$ 2,400	-	-	3	-	-	-	-	-		-	-	3
998	\$ 3,581	\$ 2,400	-	-	1	-	-	-	-	-		-	-	1
Total				178,692	19,278	576	54	2	80	56		3	2	198,743
Daily Read Meters				0	173	228	53	2	78	55		3	2	594

TOTAL METER COST BY RATE SCHEDULE										
	301	302	352	303	304	313	314	310	373	Total Cost
	\$ 12,058,590	\$ 588,879	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,647,469
	\$ 412,195	\$ 22,957	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 435,151
	\$ 812,296	\$ 38,739	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 851,035
	\$ 18,064,826	\$ 1,100,279	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,165,105
	\$ 993,080	\$ 66,820	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,059,900
	\$ 384,319	\$ 16,603	\$ -	\$ -	\$ -	\$ 205	\$ -	\$ -	\$ -	\$ 401,126
	\$ 4,076,208	\$ 1,194,446	\$ 2,434	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,273,088
	\$ 2,697,164	\$ 569,584	\$ 304	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,267,051
	\$ 162,678	\$ 634,358	\$ 3,443	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 800,479
	\$ 64,739	\$ 64,435	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 129,175
	\$ 41,315	\$ 117,059	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 158,374
	\$ 1,263,058	\$ 158,226	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,421,284
	\$ 1,304,477	\$ 5,276,410	\$ 163,060	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,743,947
	\$ 155,591	\$ 520,297	\$ 21,160	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 697,049
	\$ -	\$ 4,844	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,844
	\$ -	\$ 2,890	\$ 5,780	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,670
	\$ -	\$ 6,398	\$ 6,398	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,796
	\$ -	\$ 2,422	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,422
	\$ -	\$ 242,646	\$ 65,580	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 308,226
	\$ -	\$ 375,410	\$ 256,732	\$ 2,422	\$ -	\$ 2,422	\$ -	\$ -	\$ -	\$ 636,986
	\$ 2,890	\$ 104,040	\$ 83,810	\$ -	\$ -	\$ -	\$ 2,890	\$ -	\$ -	\$ 193,630
	\$ -	\$ 73,577	\$ 51,184	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 124,761
	\$ -	\$ 3,858	\$ 3,858	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,716
	\$ -	\$ 19,674	\$ 6,558	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,232
	\$ -	\$ 14,532	\$ 2,422	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,954
	\$ -	\$ -	\$ 2,890	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,890
	\$ -	\$ 219,973	\$ 261,218	\$ 116,861	\$ -	\$ 178,728	\$ 34,371	\$ 6,874	\$ -	\$ 818,025
	\$ -	\$ 137,483	\$ 295,589	\$ 103,112	\$ -	\$ 158,106	\$ 109,987	\$ 6,874	\$ 6,874	\$ 818,025
	\$ -	\$ 13,748	\$ 13,748	\$ 13,748	\$ -	\$ 20,622	\$ 27,497	\$ -	\$ -	\$ 89,364
	\$ -	\$ 75,616	\$ 75,616	\$ 61,867	\$ 6,874	\$ 48,119	\$ 27,497	\$ -	\$ -	\$ 295,589
	\$ -	\$ 20,622	\$ 68,742	\$ 61,867	\$ 6,874	\$ 109,987	\$ 96,238	\$ 6,874	\$ 6,874	\$ 378,079
	\$ -	\$ -	\$ 13,748	\$ 6,874	\$ -	\$ 13,748	\$ 48,119	\$ -	\$ -	\$ 82,490
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,748	\$ -	\$ -	\$ 13,748
	\$ -	\$ 5,981	\$ -	\$ -	\$ -	\$ 5,981	\$ -	\$ -	\$ -	\$ 11,962
	\$ -	\$ 11,962	\$ 11,962	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,924
	\$ -	\$ -	\$ 11,962	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,962
	\$ -	\$ 5,981	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,981
	\$ -	\$ 5,981	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,981
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,943	\$ -	\$ -	\$ 17,943
	\$ -	\$ 263,166	\$ 322,976	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 586,142
	\$ -	\$ 11,962	\$ 5,981	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,943
	\$ -	\$ 41,867	\$ 53,829	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 95,697
	\$ -	\$ 11,962	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,962
	\$ -	\$ 17,943	\$ 59,810	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 77,754
	\$ -	\$ 5,981	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,981
	\$ -	\$ 239,242	\$ 245,223	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 484,465
	\$ -	\$ -	\$ 17,943	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,943
	\$ -	\$ 5,981	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,981
	\$ 42,493,425	\$ 12,314,836	\$ 2,133,961	\$ 366,752	\$ 13,748	\$ 537,918	\$ 378,289	\$ 20,622	\$ 13,748	\$ 58,273,301
Count	178,692	19,278	576	54	2	80	56	3	2	198,743
Average Cost	\$ 237.80	\$ 638.80	\$ 3,704.79	\$ 6,791.71	\$ 6,874.16	\$ 6,723.98	\$ 6,755.17	\$ 6,874.16	\$ 6,874.16	\$ 293.21

Attr Adj Factor			1.0347	1.0000	1.0000	1.0131	1.0000	1.0000		
Attrition Count	175,367	17,734	596	54	2	81	56	3		193,892
Meter Cost	\$41,702,632	\$11,328,365	\$2,208,104	\$366,752	\$13,748	\$544,965	\$378,289	\$20,622		\$56,563,479

Three Year Average

Regulated Tariff Rate Code	Three Year Average PGA Charge Off	Three Year Avertage Base Charge Off	Attrition Period Adjustment Factor	Three Year Average PGA Charge Off	Three Year Avertage Base Charge Off
301	\$ 202,473.73	\$ 454,047.70	1.0297	\$ 208,484.86	\$ 467,527.67
302	\$ 42,725.85	\$ 95,835.83	1.0109	\$ 43,192.06	\$ 96,881.56
352	\$ 2,607.70	\$ 3,808.69	1.0348	\$ 2,698.46	\$ 3,941.27
343	\$ -	\$ -		\$ -	\$ -
303	\$ -	\$ -		\$ -	\$ -
304	\$ -	\$ -		\$ -	\$ -
313	\$ -	\$ 11,125.30	1.0000	\$ -	\$ 11,125.30
314	\$ -	\$ 1,398.80	1.0000	\$ -	\$ 1,398.80
310	\$ -	\$ -		\$ -	\$ -
n/a					
n/a					
	\$ 247,807.27	\$ 566,216.32		\$ 254,375.38	\$ 580,874.60
	\$ 247,807.27	\$ 566,216.32			
		\$ 814,023.60			\$ 835,249.98

Automated Meter Reads

Meters Read per Day per meter reader	3,900
Daily Hours	8
Daily Minutes	480
Minutes per Automated Meter Read	0.123

Daily Meter Reads

Daily Meter Checks Daily Hours	1.25
Average Hours per Month - 5 day week	27.1
Average Minutes per Month - 5 day week	1,625
Average Number of Daily Read Meters	594
Minutes per Daily Meter Read	2.736
Ratio Time Daily/Automated	22.2

Piedmont Natural Gas Company, Inc.
Tennessee Operations Only - O&M Expense
For the Twelve Months Ended 3/31/2020
All Costs

SEE BOTTOM RIGHT OF SPREADSHEET

Accounting	Fiscal Year	Bus Unit ID	Account ID	Account L	Allocation	Journal M	Resource	Resource	Journal ID	Journal De	Source CD	Source CD	Project ID	Process ID CB	Process Long Descr CB	Monetary Amount JD	Vendor ID AP	Invoice ID JC	Voucher ID	TN %	TN Amount	
4	2019	47157	0903300	Cust Record	DUTICUSPM		11000	Labor	SRVTRKPLD	Reverse OU	620	Corp-Benefit			CUSTCOL	Collection-Local Office-Nw	(1,985.65)				16.85%	(334.58)
4	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL124	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	980.80				16.85%	165.26
4	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL124	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	19,941.97				16.85%	3,360.22
4	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL124	LDS Labor D	133	LDS Payroll			CAGENCY	Collection Agency	79.10				16.85%	13.33
4	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL124	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	473.97				16.85%	79.86
7	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL139	LDS Labor D	133	LDS Payroll			CAGENCY	Collection Agency	113.00				16.85%	19.04
7	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL139	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	450.65				16.85%	75.93
7	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL139	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	931.76				16.85%	157.00
7	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL139	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	23,686.25				16.85%	3,991.13
10	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL150	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	491.90				16.85%	82.89
10	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL150	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	1,056.56				16.85%	178.03
10	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL150	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	27,578.59				16.85%	4,646.99
11	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL226	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	647.23				16.85%	109.06
11	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL226	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	20,134.82				16.85%	3,392.72
11	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL226	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	269.55				16.85%	45.42
12	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL254	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	899.20				16.85%	151.52
12	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL254	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	18,392.96				16.85%	3,099.21
12	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL254	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	268.14				16.85%	45.18
11	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL30	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	487.13				16.85%	82.08
11	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL31	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	1,078.88				16.85%	181.79
11	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL31	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	24,633.54				16.85%	4,150.75
5	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL326	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	899.20				16.85%	151.52
5	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL326	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	21,315.90				16.85%	3,591.73
5	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL327	LDS Labor D	133	LDS Payroll			CAGENCY	Collection Agency	93.24				16.85%	15.71
5	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL327	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	478.52				16.85%	80.63
8	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL357	LDS Labor D	133	LDS Payroll			CAGENCY	Collection Agency	(158.22)				16.85%	(26.66)
8	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL357	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	495.14				16.85%	83.43
8	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL358	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	1,078.88				16.85%	181.79
8	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL358	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	28,987.51				16.85%	4,884.40
6	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL378	LDS Labor D	133	LDS Payroll			CAGENCY	Collection Agency	124.30				16.85%	20.94
6	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL378	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	394.29				16.85%	66.44
6	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL378	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	916.90				16.85%	154.50
6	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL378	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	24,981.22				16.85%	4,209.34
9	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL489	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	501.39				16.85%	84.48
9	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL489	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	916.90				16.85%	154.50
9	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL489	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	23,309.37				16.85%	3,927.63
7	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL524	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	427.12				16.85%	71.97
7	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL524	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	27,633.55				16.85%	4,656.25
7	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL525	LDS Labor D	133	LDS Payroll			CAGENCY	Collection Agency	124.32				16.85%	20.95
7	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL525	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	518.28				16.85%	87.33
10	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL693	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	772.38				16.85%	130.15
10	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL693	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	26,471.03				16.85%	4,460.37
10	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL693	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	470.64				16.85%	79.30
4	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL773	LDS Labor D	133	LDS Payroll			CAGENCY	Collection Agency	101.70				16.85%	17.14
4	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL773	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	611.15				16.85%	102.98
4	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL773	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	1,029.84				16.85%	173.53
4	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL773	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	22,995.44				16.85%	3,874.73
8	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL778	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	446.10				16.85%	75.17
8	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL778	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	931.76				16.85%	157.00
8	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL778	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	29,403.83				16.85%	4,954.55
6	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL852	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	755.09				16.85%	127.23
6	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL852	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	22,246.81				16.85%	3,748.59
6	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL856	LDS Labor D	133	LDS Payroll			CAGENCY	Collection Agency	124.30				16.85%	20.94
6	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL856	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	561.58				16.85%	94.63
9	2019	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL896	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	472.91				16.85%	79.69
9	2019	47																				

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Accounting	Fiscal Year	Bus Unit ID	Account ID	Account Ld	Allocation	Journal M	Resource	Resource	Journal ID	Journal De	Source CD	Source CD	Project ID	Process ID CB	Process Long Descr CB	Monetary Amount JD	Vendor ID AP	Invoice ID JC	Voucher ID	TN %	TN Amount
4	2019	47157	0903300	Cust Record	DUTICUSPM		18001	Unproductive	SRVTRKPLD	Reverse OU	B20	Corp-Benefit		CUSTCOL	Collection-Local Office-Nw	(207.08)				16.85%	(34.89)
4	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	457.10				16.85%	77.02
4	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	9,761.31				16.85%	1,644.78
5	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	374.27				16.85%	63.06
5	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	9,467.79				16.85%	1,595.32
6	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	411.55				16.85%	69.35
6	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	11,624.78				16.85%	1,958.78
7	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	355.34				16.85%	59.87
7	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	13,419.73				16.85%	2,261.22
8	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	210.25				16.85%	35.43
8	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	6,105.78				16.85%	1,028.82
9	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	382.45				16.85%	64.44
9	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	10,074.38				16.85%	1,697.53
10	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	245.20				16.85%	41.32
10	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	7,246.21				16.85%	1,220.99
11	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	396.75				16.85%	66.85
11	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	10,290.10				16.85%	1,733.88
12	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	618.73				16.85%	104.26
12	2019	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	15,595.05				16.85%	2,627.77
4	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CAGENCY	Collection Agency	38.11				16.85%	6.42
4	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	228.72				16.85%	38.54
5	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CAGENCY	Collection Agency	33.55				16.85%	5.65
5	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	149.71				16.85%	25.23
6	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CAGENCY	Collection Agency	26.54				16.85%	4.47
6	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	102.05				16.85%	17.20
7	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CAGENCY	Collection Agency	33.53				16.85%	5.65
7	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	136.90				16.85%	23.07
8	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CAGENCY	Collection Agency	(85.89)				16.85%	(14.47)
8	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	510.93				16.85%	86.09
9	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	376.10				16.85%	63.37
10	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	323.26				16.85%	54.47
11	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	518.76				16.85%	87.41
12	2019	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	658.25				16.85%	110.92
4	2019	47157	0903300	Cust Record	DUTICUSPM		18400	Incentives Al	SRVTRKPLD	Reverse OU	B20	Corp-Benefit		CUSTCOL	Collection-Local Office-Nw	(252.16)				16.85%	(42.49)
4	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	259.11				16.85%	43.66
4	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	5,533.37				16.85%	932.37
5	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	236.70				16.85%	39.88
5	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	5,987.67				16.85%	1,008.92
6	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	218.77				16.85%	36.86
6	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	6,179.55				16.85%	1,041.25
7	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	179.99				16.85%	30.33
7	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	6,797.65				16.85%	1,145.40
8	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	233.19				16.85%	39.29
8	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	6,772.20				16.85%	1,141.12
9	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	234.27				16.85%	39.47
9	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	6,170.94				16.85%	1,039.80
10	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	217.79				16.85%	36.70
10	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	6,436.06				16.85%	1,084.48
11	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	222.90				16.85%	37.56
11	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	5,781.14				16.85%	974.12
12	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		BNKRUP	Processing Bankrupt Accounts	261.32				16.85%	44.03
12	2019	47157	0903300	Cust Collect		INC202	18400	Incentives Al	INC2020001	PNY Incent	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	6,586.55				16.85%	1,109.83
4	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CAGENCY	Collection Agency	22.99				16.85%	3.87
4	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	137.95				16.85%	23.24
5	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CAGENCY	Collection Agency	26.36				16.85%	4.44
5	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	117.65				16.85%	19.82
6	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CAGENCY	Collection Agency	28.89				16.85%	4.87
6	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	111.08				16.85%	18.72
7	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CAGENCY	Collection Agency	28.44				16.85%	4.79
7	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	116.11				16.85%	19.56
8	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CAGENCY	Collection Agency	(25.63)				16.85%	(4.32)
8	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	152.48				16.85%	25.69
9	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	141.79				16.85%	23.89
10	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	135.01				16.85%	22.75
11	2019	47157	0903300	Cust Collect		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocation		CUSTCOL	Collection-Local Office-Nw	133.92				16.85%	22.57

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Accounting	Fiscal Year	Bus Unit ID	Account ID	Account Ld	Allocation	Journal M	Resource	Resource	Journal ID	Journal De	Source CD	Source CD	Project ID	Process ID CB	Process Long Descr CB	Monetary Amount JD	Vendor ID AP	Invoice ID JC	Voucher ID	TN %	TN Amount	
12	2019	47157	0903300	Cust Collecti		INC19	18400	Incentives Al	INC190001	President & S	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	146.51			16.85%	24.69	
4	2019	47157	0903300	Cust Records	DUTICUSPM		19500	Service Com	SRVTRKPLR	Reverse OU	B20	Corp-Benefits			CUSTCOL	Collection-Local Office-Nw	(534.94)			16.85%	(90.14)	
5	2019	47157	0903300	Cust Collecti		APACR	63000	Contract/Out	APACR0538	Accounts Pa	AP	Accounts Pa			BNKRUPY	Processing Bankrupt Accounts	21.30	0000026614	2993419Q1201	11341962	16.85%	3.59
6	2019	47157	0903300	Cust Collecti		ACCRUL	69000	Consultant	ACCRUL189	MAR19Guid	500	DEBS Report			CUSTCOL	Collection-Local Office-Nw	(1,230.49)			16.85%	(207.34)	
5	2019	47157	0903300	Cust Collecti		ACCRUL	69000	Consultant	ACCRUL189	MAR19Guid	500	DEBS Report			CUSTCOL	Collection-Local Office-Nw	(1,230.49)			16.85%	(207.34)	
6	2019	47157	0903300	Cust Collecti		ACCRUL	69000	Consultant	ACCRUL189	MAR19Guid	500	DEBS Report			CUSTCOL	Collection-Local Office-Nw	1,230.49			16.85%	207.34	
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR0136	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	517.28	0000133961	DUKEIN002100	11215134	16.85%	87.16
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR0136	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	815.10	0000133961	DUKEIN002100	11214906	16.85%	137.34
5	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR0537	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	822.94	0000133961	DUKEIN002143	11221058	16.85%	138.67
5	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR0737	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	619.16	0000133961	DUKEIN002168	11223876	16.85%	104.33
5	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR0737	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	501.60	0000133961	DUKEIN002169	11223812	16.85%	84.52
5	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR1017	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	775.91	0000133961	DUKEIN002210	11229184	16.85%	130.74
5	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR1017	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	454.58	0000133961	DUKEIN002210	11229172	16.85%	76.60
5	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR1285	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	548.63	0000133961	DUKEIN002264	11236085	16.85%	92.44
5	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR1285	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	360.53	0000133961	DUKEIN002264	11236086	16.85%	60.75
6	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR1562	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	470.25	0000133961	DUKEIN002277	11238198	16.85%	79.24
6	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR1562	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	172.43	0000133961	DUKEIN002277	11238148	16.85%	29.05
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR9216	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	532.95	0000133961	DUKEIN002193	11195199	16.85%	89.80
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR9216	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	572.14	0000133961	DUKEIN001953	11195194	16.85%	96.41
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR9491	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	752.40	0000133961	DUKEIN002001	11201548	16.85%	126.78
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR9491	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	642.68	0000133961	DUKEIN002001	11201553	16.85%	108.29
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR9729	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	666.19	0000133961	DUKEIN002031	11205655	16.85%	112.25
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR9729	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	760.24	0000133961	DUKEIN002031	11205635	16.85%	128.10
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR9893	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	768.08	0000133961	DUKEIN002064	11210012	16.85%	129.42
4	2019	47157	0903300	Cust Collecti		APACR	69000	Consultant	APACR9942	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	506.30	0000133961	DUKEIN002073	11211216	16.85%	85.31
5	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR0919	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	7,973.17	0000203522	75448	11227482	16.85%	1,343.48
6	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR1869	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	4,838.28	0000203522	76015	11244201	16.85%	815.25
7	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR3095	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	2,476.98	0000203522	76582	11264785	16.85%	417.37
8	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR4119	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	8,820.90	0000203522	77150	11281345	16.85%	1,486.32
9	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR5384	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	11,743.74	0000203522	77728	11304804	16.85%	1,978.82
10	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR6737	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	14,691.03	0000203522	78354	11329384	16.85%	2,475.44
11	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR8118	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	6,399.47	0000203522	78932	11353749	16.85%	1,078.31
12	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR9149	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	14,747.21	0000203522	79444	11373165	16.85%	2,484.90
4	2019	47157	0903100	Cust Contract		APACR	69400	Turnkey Ser	APACR9627	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	4,601.96	0000203522	74828	11204321	16.85%	775.43
5	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR0919	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	7,542.20	0000203522	75448	11227482	16.85%	1,270.86
6	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR1869	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	4,576.74	0000203522	76015	11244201	16.85%	771.18
7	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR3095	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	2,343.10	0000203522	76582	11264785	16.85%	394.81
8	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR4119	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	8,344.10	0000203522	77150	11281345	16.85%	1,405.98
9	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR5384	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	11,108.95	0000203522	77728	11304804	16.85%	1,871.86
10	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR6737	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	13,896.92	0000203522	78354	11329384	16.85%	2,341.63
11	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR8118	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	6,053.56	0000203522	78932	11353749	16.85%	1,020.02
12	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR9149	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	13,950.07	0000203522	79444	11373165	16.85%	2,350.59
4	2019	47157	0903200	Cust Billing &		APACR	69400	Turnkey Ser	APACR9627	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	4,353.21	0000203522	74828	11204321	16.85%	733.52
5	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR0919	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	6,033.76	0000203522	75448	11227482	16.85%	1,016.69
6	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR1869	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	3,661.39	0000203522	76015	11244201	16.85%	616.94
7	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR3095	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	1,874.48	0000203522	76582	11264785	16.85%	315.85
8	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR4119	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	6,675.28	0000203522	77150	11281345	16.85%	1,124.78
9	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR5384	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	8,887.16	0000203522	77728	11304804	16.85%	1,497.49
10	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR6737	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	11,117.53	0000203522	78354	11329384	16.85%	1,873.30
11	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR8118	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	4,842.85	0000203522	78932	11353749	16.85%	816.02
12	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR9149	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	11,160.06	0000203522	79444	11373165	16.85%	1,880.47
4	2019	47157	0903300	Cust Collecti		APACR	69400	Turnkey Ser	APACR9627	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	3,482.57	0000203522	74828	11204321	16.85%	586.81
4	2019	47157	0903300	Cust Collecti		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CAGENCY	Collection Agency	91.58			16.85%	15.43	
4	2019	47157	0903300	Cust Collecti		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	549.61			16.85%	92.61	
5	2019	47157	0903300	Cust Collecti		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CAGENCY	Collection Agency	110.18			16.85%	18.57	
5	2019	47157	0903300	Cust Collecti		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	491.71			16.85%	82.85	
6	2019	47157	0903300	Cust Collecti		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CAGENCY	Collection Agency	125.92			16.85%	21.22	
6	2019	47157	0903300	Cust Collecti		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	484.15			16.85%	81.58	
7	2019	47157	0903300	Cust Collecti		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CAGENCY	Collection Agency	120.20					

Piedmont Natural Gas Company, Inc.
Tennessee Operations Only - O&M Expense
For the Twelve Months Ended 3/31/2020
All Costs

SEE BOTTOM RIGHT OF SPREADSHEET

Accounting	Fiscal Year	Bus Unit ID	Account ID	Account Ld	Allocation	Journal M	Resource	Resource	Journal ID	Journal De	Source CD	Source CD	Project ID	Process ID CB	Process Long Descr CB	Monetary Amount JD	Vendor ID AP	Invoice ID JC	Voucher ID	TN %	TN Amount	
12	2019	47157	0903300	Cust Collect		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	373.32			16.85%	62.90	
1	2020	47157	0903100	Cust Contrac		APACR	69400	Turnkey Serv	APACR0098	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	13,729.32	0000203522	79972	11387688	17.00%	2,333.98
2	2020	47157	0903100	Cust Contrac		APACR	69400	Turnkey Serv	APACR1594	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	6,180.29	0000203522	80440	11415171	17.00%	1,050.65
3	2020	47157	0903100	Cust Contrac		APACR	69400	Turnkey Serv	APACR2286	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	4,203.26	0000203522	80963	11425393	17.00%	714.55
1	2020	47157	0903200	Cust Billing &		APACR	69400	Turnkey Serv	APACR0098	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	12,987.19	0000203522	79972	11387688	17.00%	2,207.82
2	2020	47157	0903200	Cust Billing &		APACR	69400	Turnkey Serv	APACR1594	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	5,846.22	0000203522	80440	11415171	17.00%	993.86
3	2020	47157	0903200	Cust Billing &		APACR	69400	Turnkey Serv	APACR2286	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	3,976.06	0000203522	80963	11425393	17.00%	675.93
1	2020	47157	0903300	Cust Collect		APACR	69400	Turnkey Serv	APACR0098	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	10,389.75	0000203522	79972	11387688	17.00%	1,766.26
2	2020	47157	0903300	Cust Collect		APACR	33000	Office Suppl	APACR1451	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	742.96	0000101574	42442332CPN	11411462	17.00%	126.30
2	2020	47157	0903300	Cust Collect		APACR	69400	Turnkey Serv	APACR1594	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	4,676.97	0000203522	80440	11415171	17.00%	795.08
2	2020	47157	0903300	Cust Collect		APACR	33000	Office Suppl	APACR1642	Accounts Pa	AP	Accounts Pa			CUSTCOL	Collection-Local Office-Nw	811.06	0000101574	42442333CPN	11415628	17.00%	137.88
3	2020	47157	0903300	Cust Collect		APACR	69400	Turnkey Serv	APACR2286	Accounts Pa	AP	Accounts Pa			PNGFP	Piedmont OCAs	3,180.84	0000203522	80963	11425393	17.00%	540.74
1	2020	47157	0903300	Cust Collect		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	529.31			17.00%	89.98	
2	2020	47157	0903300	Cust Collect		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	544.71			17.00%	92.60	
3	2020	47157	0903300	Cust Collect		ELE03A	78000	Allocated S&	ELE03A0001	Elec OH to A	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	556.67			17.00%	94.63	
1	2020	47157	0903300	Cust Collect		INC202	18400	Incentives At	INC2020001	PNY Incent	ALO	GL Allocator			BNKRUP	Processing Bankrupt Accounts	214.32			17.00%	36.43	
1	2020	47157	0903300	Cust Collect		INC202	18400	Incentives At	INC2020001	PNY Incent	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	6,900.44			17.00%	1,173.07	
2	2020	47157	0903300	Cust Collect		INC202	18400	Incentives At	INC2020001	PNY Incent	ALO	GL Allocator			BNKRUP	Processing Bankrupt Accounts	215.03			17.00%	36.56	
2	2020	47157	0903300	Cust Collect		INC202	18400	Incentives At	INC2020001	PNY Incent	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	6,821.78			17.00%	1,159.70	
3	2020	47157	0903300	Cust Collect		INC202	18400	Incentives At	INC2020001	PNY Incent	ALO	GL Allocator			BNKRUP	Processing Bankrupt Accounts	239.06			17.00%	40.64	
3	2020	47157	0903300	Cust Collect		INC202	18400	Incentives At	INC2020001	PNY Incent	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	7,104.83			17.00%	1,207.82	
1	2020	47157	0903300	Cust Collect		INCN19	18400	Incentives At	INCN190001	President & S	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	122.36			17.00%	20.80	
2	2020	47157	0903300	Cust Collect		INCN19	18400	Incentives At	INCN190001	President & S	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	120.40			17.00%	20.47	
3	2020	47157	0903300	Cust Collect		INCN19	18400	Incentives At	INCN190001	President & S	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	119.63			17.00%	20.34	
1	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL224	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	505.72			17.00%	85.97	
1	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL224	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	735.60			17.00%	125.05	
1	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL224	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	24,817.53			17.00%	4,218.98	
2	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL395	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	1,024.77			17.00%	174.21	
2	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL395	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	30,291.44			17.00%	5,149.54	
2	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL396	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	570.33			17.00%	96.96	
3	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL509	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	567.94			17.00%	96.55	
3	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL509	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	949.79			17.00%	161.46	
3	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL509	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	26,811.73			17.00%	4,557.99	
1	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL647	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	555.23			17.00%	94.39	
1	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL647	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	854.24			17.00%	145.22	
1	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL647	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	26,369.41			17.00%	4,482.80	
2	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL690	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	521.49			17.00%	88.65	
2	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL690	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	822.51			17.00%	139.83	
2	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL690	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	28,313.14			17.00%	4,813.23	
3	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL847	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	547.85			17.00%	93.13	
3	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL847	LDS Labor D	133	LDS Payroll			BNKRUP	Processing Bankrupt Accounts	1,024.32			17.00%	174.13	
3	2020	47157	0903300	Cust Collect		PAYRLL	11000	Labor	PAYRLL847	LDS Labor D	133	LDS Payroll			CUSTCOL	Collection-Local Office-Nw	31,857.51			17.00%	5,415.78	
1	2020	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocator			BNKRUP	Processing Bankrupt Accounts	451.34			17.00%	76.73	
1	2020	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	14,531.49			17.00%	2,470.35	
2	2020	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocator			BNKRUP	Processing Bankrupt Accounts	200.62			17.00%	34.11	
2	2020	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	6,364.77			17.00%	1,082.01	
3	2020	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocator			BNKRUP	Processing Bankrupt Accounts	302.69			17.00%	51.46	
3	2020	47157	0903300	Cust Collect			18001	Unproductive	UNP200000	PNY Unprod	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	8,995.76			17.00%	1,529.28	
1	2020	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	104.37			17.00%	17.74	
2	2020	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	54.82			17.00%	9.32	
3	2020	47157	0903300	Cust Collect		UNPD19	18001	Unproductive	UNPD19000	Unprod-Adm	ALO	GL Allocator			CUSTCOL	Collection-Local Office-Nw	23.57			17.00%	4.01	

161,595,265.23

53,648,239.54

0903s accounts only

Collection Expenses Coded to Process ID CB --->

Process ID CB	Total TN CUSTCOL, BNKRUP, CA	\$	193,301.71
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Piedmont Natural Gas Company Inc.
Tennessee Operations - Total O&M - by Account Number
For the Twelve Months Ended 3/31/2020

Account Number	Account Name	Non Labor Charges	Labor Charges	Total TN O&M	STIP & LTIP	Total TN Labor incl Incentive
0735000	Gas Misc Production Exp	\$ 76,870.47	\$ 5,925.83	\$ 82,796.30	522.89	\$ 6,448.72
0807000	Gas Purchased Expenses	148,133.99	183,504.95	331,638.94	32,240.92	\$ 215,745.88
0840000	Operation Supv & Eng-OSTG	(14,963.02)	(239.04)	(15,202.06)		\$ (239.04)
0843500	LNG Maint Liquefaction Equip	26,059.24	-	26,059.24		\$ -
0843600	LNG Maint Vaporization Equip	5,510.15	-	5,510.15		\$ -
0843900	LNG Maint Other Storage Equip	11,518.79	90.74	11,609.53		\$ 90.74
0844100	LNG Ops Supv Eng Labor & Exp	64,498.12	200,696.70	265,194.82	20,854.33	\$ 221,551.03
0846201	LNG Operation Labor & Exp	501,068.36	631,802.92	1,132,871.28	19,555.49	\$ 651,358.41
0851000	System Control & Load Dispatch	168,063.39	306,216.68	474,280.07	32,014.79	\$ 338,231.47
0853000	Compressor Station Labor & Exp	166,764.71	74,132.58	240,897.29	7,625.75	\$ 81,758.33
0856001	Mains Expenses	38,214.43	346.73	38,561.16		\$ 346.73
0859000	Other Expenses-Trans	18,590.52	35,669.79	54,260.31	4,021.36	\$ 39,691.15
0861000	Maintenance Supv & Eng-Tran	41,055.00	129,788.67	170,843.67	14,871.54	\$ 144,660.21
0862000	Maint Struct & Improve-Tran	14,374.21	35,099.14	49,473.35	3,647.08	\$ 38,746.22
0863000	Transm-Maint of Mains	2,470,927.08	179,484.61	2,650,411.69	10,610.76	\$ 190,095.37
0864000	Maint Compressor Sta Eq-Tran	88,545.83	42,376.30	130,922.13	4,408.56	\$ 46,784.86
0865000	Maint Of M & R Station Eq-Tran	17,541.99	29,674.99	47,216.98	3,081.07	\$ 32,756.06
0870000	Distribution Sys Ops-Supv/Eng	46,151.44	195,040.98	241,192.42	6,104.06	\$ 201,145.04
0871000	Distribution Load Dispatching	92,812.08	29.83	92,841.91		\$ 29.83
0874000	Mains And Services	3,369,768.71	714,749.86	4,084,518.57	35,268.31	\$ 750,018.17
0875000	Measuring And Reg Stations-Ge	32,685.87	9,027.46	41,713.33	1,389.70	\$ 10,417.16
0878000	Meter And House Regulator Exp	470,357.22	1,995,201.95	2,465,559.17	59,533.21	\$ 2,054,735.16
0879000	Customer Installation Expense	286,103.09	1,178,553.83	1,464,656.92	39,395.85	\$ 1,217,949.68
0880000	Gas Distribution-Other Expense	932,171.06	1,003,614.01	1,935,785.08	88,348.30	\$ 1,091,962.31
0885000	Maint Dist Sys Fac- Supv/Engr	196,024.16	559,159.70	755,183.86	72,381.25	\$ 631,540.95
0887000	Maintenance of Mains	1,225,690.10	1,343,230.05	2,568,920.15	74,434.90	\$ 1,417,664.95
0889000	Maint-Meas/Reg Stn Equip-Gas	297,651.68	641,778.90	939,430.58	21,447.02	\$ 663,225.92
0889001	Maint CNG Fuel Stations-Dist	102,711.98	90,221.56	192,933.54	11,358.52	\$ 101,580.08
0890000	Maint - Meas/Reg Stn Eq-Indus	8,627.39	14,581.76	23,209.15	1,515.55	\$ 16,097.31
0891000	Maint M&R equip City Gate	122.37	432.64	555.01	12.80	\$ 445.44
0892000	Maintenance of Services	539,168.07	105,775.06	644,943.13	1,959.85	\$ 107,734.91
0893000	Maint - Meters And House Reg	199,519.65	796,306.69	995,826.34	23,658.97	\$ 819,965.66
0894000	Maint-Other Distribution Equip	(2,582.46)	5,277.61	2,695.15	157.29	\$ 5,434.90
0901000	Supervision-Cust Accts	4,903.83	19,598.63	24,502.46	2,290.78	\$ 21,889.41
0902000	Meter Reading Expense	15,187.23	158,691.82	173,879.05	8,638.40	\$ 167,330.22
0903000	Cust Records & Collection Exp	45,216.60	253,524.37	298,740.97	26,125.91	\$ 279,650.28
0903100	Cust Contracts & Orders-Local	626,573.35	503,406.67	1,129,980.02	62,645.77	\$ 566,052.44
0903200	Cust Billing & Acct	836,257.72	650,407.42	1,486,665.14	77,773.49	\$ 728,180.91
0903300	Cust Collecting-Local	1,653,062.55	557,370.27	2,210,432.81	66,062.95	\$ 623,433.22
0905000	Misc Customer Accts Expenses	628.88	-	628.88		\$ -
0908000	Cust Asst Exp-Conservation Pro	1,219.80	-	1,219.80		\$ -
0909650	Misc Advertising Expenses	102,584.26	-	102,584.26		\$ -
0910000	Misc Cust Serv/Inform Exp	2,666.14	10,027.31	12,693.44	1,052.87	\$ 11,080.17
0910100	Exp-Rs Reg Prod/Svces-CstAccts	(2,990.78)	(145.16)	(3,135.94)	(16.09)	\$ (161.25)
0912000	Demonstrating & Selling Exp	300,823.82	197,855.68	498,679.50	36,981.53	\$ 234,837.22
0913001	Advertising Expense	43,058.17	258.97	43,317.15	29.78	\$ 288.75
0916000	Misc Sales Expenses	72,014.23	451,822.28	523,836.51	52,370.18	\$ 504,192.46
0920000	A & G Salaries	2,598,970.91	3,717,260.01	6,316,230.91	1,747,405.87	\$ 5,464,665.88
0920100	Salaries & Wages - Proj Supt -	(40.53)	-	(40.53)		\$ -
0921100	Employee Expenses	173,236.32	-	173,236.32		\$ -
0921101	Employee Exp - NC	108.13	-	108.13		\$ -
0921110	Relocation Expenses	207.57	-	207.57		\$ -
0921200	Office Expenses	950,962.06	81.62	951,043.68		\$ 81.62
0921300	Telephone And Telegraph Exp	1,774.02	-	1,774.02		\$ -
0921400	Computer Services Expenses	325,391.27	49.19	325,440.46		\$ 49.19
0921540	Computer Rent (Go Only)	529,640.42	-	529,640.42		\$ -

Piedmont Natural Gas Company Inc.
Tennessee Operations - Total O&M - by Account Number
For the Twelve Months Ended 3/31/2020

Account Number	Account Name	Non Labor Charges	Labor Charges	Total TN O&M	STIP & LTIP	Total TN Labor incl Incentive
0921600	Other	5,230.65	-	5,230.65		\$ -
0921900	Office Supply And Exp-Partner	72.29	-	72.29		\$ -
0921980	Office Supplies & Expenses	2,298,862.43	49.48	2,298,911.90		\$ 49.48
0922000	Admin Exp Transfer	250.51	40.48	291.00	4.65	\$ 45.13
0923000	Outside Services Employed	3,109,895.17	726.82	3,110,621.99		\$ 726.82
0923100	Outside Svcs Cont -Proj Supt -	142.52	-	142.52		\$ -
0923980	Outside Services Employee &	32,986.78	-	32,986.78		\$ -
0924000	Property Insurance	2,172.10	-	2,172.10		\$ -
0924050	Inter-Co Prop Ins Exp	35,842.49	-	35,842.49		\$ -
0924980	Property Insurance For Corp.	127,618.38	-	127,618.38		\$ -
0925000	Injuries & Damages	369,723.31	-	369,723.31		\$ -
0925051	INTER-CO GEN LIAB EXP	232,273.70	-	232,273.70		\$ -
0925100	Accrued Inj And Damages	57.16	-	57.16		\$ -
0925200	Injuries And Damages-Other	1,662.91	3,509.22	5,172.13	397.94	\$ 3,907.16
0925980	Injuries And Damages For Corp.	13,682.23	-	13,682.23		\$ -
0926000	Employee Benefits	10,366,238.25	2,130.61	10,368,368.86	1,776.52	\$ 3,907.13
0926600	Employee Benefits-Transferred	(1,590,491.41)	0.33	(1,590,491.07)		\$ 0.33
0926999	Non Serv Pension (ASU 2017-07)	(2,671,554.12)	-	(2,671,554.12)		\$ -
0928000	Regulatory Expenses (Go)	456,524.38	-	456,524.38		\$ -
0928014	Regulatory Commission Expenses	946,005.22	-	946,005.22		\$ -
0928052	Employee Benefits	2,878.10	2,261.25	5,139.35		\$ 2,261.25
0928053	Travel Expenses	(55.30)	-	(55.30)		\$ -
0930150	Miscellaneous Advertising Exp	54,834.29	2,300.90	57,135.19	425.34	\$ 2,726.24
0930200	Misc General Expenses	(429,960.10)	630,630.67	200,670.57	39,000.82	\$ 669,631.49
0930220	Exp Of Servicing Securities	9,607.92	-	9,607.92		\$ -
0930230	Dues To Various Organizations	5,558.95	-	5,558.95		\$ -
0930240	Director'S Expenses	48,343.90	-	48,343.90	21,024.85	\$ 21,024.85
0930250	Buy\Sell Transf Employee Homes	10,768.28	-	10,768.28		\$ -
0930700	Research & Development	488.38	248.74	737.12	28.61	\$ 277.35
0930940	General Expenses	594,202.18	17.47	594,219.66	2.01	\$ 19.48
0931001	Rents-A&G	1,492,511.51	-	1,492,511.51		\$ -
0931003	Lease Amortization Expense	(30,709.85)	-	(30,709.85)		\$ -
0931008	A&G Rents-IC	528,646.41	-	528,646.41		\$ -
0932000	Maintenance Of Gen Plant-Gas	14,921.35	13,537.92	28,459.27	1,409.59	\$ 14,947.51
0935100	Maint General Plant-Elec	5,347.58	-	5,347.58		\$ -
0935200	Cust Infor & Computer Control	(768.44)	-	(768.44)		\$ -
Total TN O&M		\$ 35,965,021.73	\$ 17,683,216.46	\$ 53,648,238.19	\$ 2,735,851.91	\$ 20,419,068.37
	T&D Exp	11,639,755.66	10,507,553.48	22,147,309.13	590,420.13	\$ 11,097,973.60
	T&D Exp check			22,147,309.13		\$ 11,097,973.60
	Customer Exp	1,632,247.04	1,595,511.05	3,227,758.09	178,511.13	\$ 1,774,022.18
	Customer Exp check			3,227,758.09		\$ (1,774,022.18)
	Uncollectible	1,653,062.55	557,370.27	2,210,432.81	66,062.95	\$ 623,433.22
	Uncollectible check			2,210,433.00		\$ (623,433.00)
	Sales Expense	415,896.22	649,936.94	1,065,833.16	89,381.50	\$ 739,318.43
	Sales Expense check			1,065,833.00		\$ (739,318.00)
	A&G Expense	20,624,060.27	4,372,844.73	24,996,905.00	1,811,476.20	\$ 6,184,320.93
	A&G Expense check			24,996,905.00		\$ 14,234,746.78
	Total	35,965,021.73	17,683,216.46	53,648,238.19	2,735,851.91	\$ 14,145,522.00
			53,648,238.19	53,648,238.00	20,419,068.37	\$ -

Piedmont Natural Gas Company Inc.
Tennessee Operations - Total O&M - by Account Number
For the Twelve Months Ended 3/31/2020

Account Number	Account Name	S&W/Incentive Adjustment	Per Books (Adjusted for S&W Adj Only)	Accting/Ratemaking Adjustments	Per Books As Adjusted	Total TN O&M less labor & incent col e - col g	Attrition Period Allocated per Composite Factor
0735000	Gas Misc Production Exp	\$ (6,448.72)	\$ 76,347.58		\$ 76,347.58	\$ 76,347.58	
0807000	Gas Purchased Expenses	\$ (215,745.88)	\$ 115,893.07		\$ 115,893.07	\$ 115,893.07	
0840000	Operation Supv & Eng-OSTG	\$ 239.04	\$ (14,963.02)		\$ (14,963.02)	\$ (14,963.02)	
0843500	LNG Maint Liquefaction Equip	\$ -	\$ 26,059.24		\$ 26,059.24	\$ 26,059.24	
0843600	LNG Maint Vaporization Equip	\$ -	\$ 5,510.15		\$ 5,510.15	\$ 5,510.15	
0843900	LNG Maint Other Storage Equip	\$ (90.74)	\$ 11,518.79		\$ 11,518.79	\$ 11,518.79	
0844100	LNG Ops Supv Eng Labor & Exp	\$ (221,551.03)	\$ 43,643.79		\$ 43,643.79	\$ 43,643.79	
0846201	LNG Operation Labor & Exp	\$ (651,358.41)	\$ 481,512.87		\$ 481,512.87	\$ 481,512.87	
0851000	System Control & Load Dispatch	\$ (338,231.47)	\$ 136,048.60		\$ 136,048.60	\$ 136,048.60	
0853000	Compressor Station Labor & Exp	\$ (81,758.33)	\$ 159,138.96		\$ 159,138.96	\$ 159,138.96	
0856001	Mains Expenses	\$ (346.73)	\$ 38,214.43		\$ 38,214.43	\$ 38,214.43	
0859000	Other Expenses-Trans	\$ (39,691.15)	\$ 14,569.16		\$ 14,569.16	\$ 14,569.16	
0861000	Maintenance Supv & Eng-Tran	\$ (144,660.21)	\$ 26,183.46		\$ 26,183.46	\$ 26,183.46	
0862000	Maint Struct & Improve-Tran	\$ (38,746.22)	\$ 10,727.13		\$ 10,727.13	\$ 10,727.13	
0863000	Transm-Maint of Mains	\$ (190,095.37)	\$ 2,460,316.32		\$ 2,460,316.32	\$ 2,460,316.32	
0864000	Maint Compressor Sta Eq-Tran	\$ (46,784.86)	\$ 84,137.27		\$ 84,137.27	\$ 84,137.27	
0865000	Maint Of M & R Station Eq-Tran	\$ (32,756.06)	\$ 14,460.92		\$ 14,460.92	\$ 14,460.92	
0870000	Distribution Sys Ops-Supv/Eng	\$ (201,145.04)	\$ 40,047.38		\$ 40,047.38	\$ 40,047.38	
0871000	Distribution Load Dispatching	\$ (29.83)	\$ 92,812.08		\$ 92,812.08	\$ 92,812.08	
0874000	Mains And Services	\$ (750,018.17)	\$ 3,334,500.40		\$ 3,334,500.40	\$ 3,334,500.40	
0875000	Measuring And Reg Stations-Ge	\$ (10,417.16)	\$ 31,296.17		\$ 31,296.17	\$ 31,296.17	
0878000	Meter And House Regulator Exp	\$ (2,054,735.16)	\$ 410,824.01		\$ 410,824.01	\$ 410,824.01	
0879000	Customer Installation Expense	\$ (1,217,949.68)	\$ 246,707.24		\$ 246,707.24	\$ 246,707.24	
0880000	Gas Distribution-Other Expense	\$ (1,091,962.31)	\$ 843,822.76		\$ 843,822.76	\$ 843,822.76	
0885000	Maint Dist Sys Fac- Supv/Engr	\$ (631,540.95)	\$ 123,642.91		\$ 123,642.91	\$ 123,642.91	\$ 10,616.74
0887000	Maintenance of Mains	\$ (1,417,664.95)	\$ 1,151,255.20		\$ 1,151,255.20	\$ 1,151,255.20	
0889000	Maint-Meas/Reg Stn Equip-Gas	\$ (663,225.92)	\$ 276,204.66		\$ 276,204.66	\$ 276,204.66	
0889001	Maint CNG Fuel Stations-Dist	\$ (101,580.08)	\$ 91,353.46		\$ 91,353.46	\$ 91,353.46	
0890000	Maint - Meas/Reg Stn Eq-Indus	\$ (16,097.31)	\$ 7,111.84		\$ 7,111.84	\$ 7,111.84	
0891000	Maint M&R equip City Gate	\$ (445.44)	\$ 109.57		\$ 109.57	\$ 109.57	
0892000	Maintenance of Services	\$ (107,734.91)	\$ 537,208.22		\$ 537,208.22	\$ 537,208.22	
0893000	Maint - Meters And House Reg	\$ (819,965.66)	\$ 175,860.68		\$ 175,860.68	\$ 175,860.68	
0894000	Maint-Other Distribution Equip	\$ (5,434.90)	\$ (2,739.75)		\$ (2,739.75)	\$ (2,739.75)	
0901000	Supervision-Cust Accts	\$ (21,889.41)	\$ 2,613.05		\$ 2,613.05	\$ 2,613.05	
0902000	Meter Reading Expense	\$ (167,330.22)	\$ 6,548.84		\$ 6,548.84	\$ 6,548.84	
0903000	Cust Records & Collection Exp	\$ (279,650.28)	\$ 19,090.69		\$ 19,090.69	\$ 19,090.69	
0903100	Cust Contracts & Orders-Local	\$ (566,052.44)	\$ 563,927.58	\$ (14,421.00)	\$ 549,506.58	\$ 549,506.58	
0903200	Cust Billing & Acct	\$ (728,180.91)	\$ 758,484.23		\$ 758,484.23	\$ 758,484.23	
0903300	Cust Collecting-Local	\$ (623,433.00)	\$ 1,586,999.81	\$ (1,187,691.00)	\$ 399,308.81	\$ 1,586,999.60	
0905000	Misc Customer Accts Expenses	\$ -	\$ 628.88		\$ 628.88	\$ 628.88	
0908000	Cust Asst Exp-Conservation Pro	\$ -	\$ 1,219.80		\$ 1,219.80	\$ 1,219.80	
0909650	Misc Advertising Expenses	\$ -	\$ 102,584.26		\$ 102,584.26	\$ 102,584.26	\$ 21,782.32
0910000	Misc Cust Serv/Inform Exp	\$ (11,080.17)	\$ 1,613.27		\$ 1,613.27	\$ 1,613.27	
0910100	Exp-Rs Reg Prod/Svces-CstAccts	\$ 161.25	\$ (2,974.69)		\$ (2,974.69)	\$ (2,974.69)	
0912000	Demonstrating & Selling Exp	\$ (234,837.22)	\$ 263,842.29	\$ (61,365.00)	\$ 202,477.29	\$ 202,477.66	\$ 46,115.50
0913001	Advertising Expense	\$ (288.75)	\$ 43,028.39		\$ 43,028.39	\$ 43,028.39	
0916000	Misc Sales Expenses	\$ (504,192.46)	\$ 19,644.04		\$ 19,644.04	\$ 19,644.04	
0920000	A & G Salaries	\$ 14,102,837.78	\$ 20,419,068.70	\$ (58,382.83)	\$ 20,360,685.87	\$ 851,565.04	
0920100	Salaries & Wages - Proj Supt -		\$ (40.53)		\$ (40.53)	\$ (40.53)	
0921100	Employee Expenses		\$ 173,236.32		\$ 173,236.32	\$ 173,236.32	
0921101	Employee Exp - NC		\$ 108.13		\$ 108.13	\$ 108.13	
0921110	Relocation Expenses		\$ 207.57		\$ 207.57	\$ 207.57	
0921200	Office Expenses		\$ 951,043.68		\$ 951,043.68	\$ 950,962.06	
0921300	Telephone And Telegraph Exp		\$ 1,774.02		\$ 1,774.02	\$ 1,774.02	
0921400	Computer Services Expenses		\$ 325,440.46		\$ 325,440.46	\$ 325,391.27	
0921540	Computer Rent (Go Only)		\$ 529,640.42		\$ 529,640.42	\$ 529,640.42	

Piedmont Natural Gas Company Inc.
Tennessee Operations - Total O&M - by Account Number
For the Twelve Months Ended 3/31/2020

Account Number	Account Name	S&W/Incentive Adjustment	Per Books (Adjusted for S&W Adj Only)	Accting/Ratemaking Adjustments	Per Books As Adjusted	Total TN O&M less labor & incent col e - col g	Attrition Period Allocated per Composite Factor
0921600	Other		\$ 5,230.65		\$ 5,230.65	\$ 5,230.65	
0921900	Office Supply And Exp-Partner		\$ 72.29		\$ 72.29	\$ 72.29	
0921980	Office Supplies & Expenses		\$ 2,298,911.90		\$ 2,298,911.90	\$ 2,298,862.43	
0922000	Admin Exp Transfer		\$ 291.00		\$ 291.00	\$ 245.86	
0923000	Outside Services Employed		\$ 3,110,621.99		\$ 3,110,621.99	\$ 3,109,895.17	
0923100	Outside Svcs Cont -Proj Supt -		\$ 142.52		\$ 142.52	\$ 142.52	
0923980	Outside Services Employee &		\$ 32,986.78		\$ 32,986.78	\$ 32,986.78	
0924000	Property Insurance		\$ 2,172.10		\$ 2,172.10	\$ 2,172.10	
0924050	Inter-Co Prop Ins Exp		\$ 35,842.49		\$ 35,842.49	\$ 35,842.49	
0924980	Property Insurance For Corp.		\$ 127,618.38		\$ 127,618.38	\$ 127,618.38	
0925000	Injuries & Damages		\$ 369,723.31		\$ 369,723.31	\$ 369,723.31	
0925051	INTER-CO GEN LIAB EXP		\$ 232,273.70		\$ 232,273.70	\$ 232,273.70	
0925100	Accrued Inj And Damages		\$ 57.16		\$ 57.16	\$ 57.16	
0925200	Injuries And Damages-Other	\$ (3,907.16)	\$ 1,264.97		\$ 1,264.97	\$ 1,264.97	
0925980	Injuries And Damages For Corp.		\$ 13,682.23		\$ 13,682.23	\$ 13,682.23	
0926000	Employee Benefits	\$ (3,926.40)	\$ 10,364,442.46	\$ 1,519,359.00	\$ 11,883,801.46	\$ 10,364,461.73	
0926600	Employee Benefits-Transferred		\$ (1,590,491.07)		\$ (1,590,491.07)	\$ (1,590,491.41)	
0926999	Non Serv Pension (ASU 2017-07)		\$ (2,671,554.12)		\$ (2,671,554.12)	\$ (2,671,554.12)	
0928000	Regulatory Expenses (Go)		\$ 456,524.38		\$ 456,524.38	\$ 456,524.38	
0928014	Regulatory Commission Expenses		\$ 946,005.22		\$ 946,005.22	\$ 946,005.22	
0928052	Employee Benefits		\$ 5,139.35		\$ 5,139.35	\$ 2,878.10	
0928053	Travel Expenses		\$ (55.30)		\$ (55.30)	\$ (55.30)	
0930150	Miscellaneous Advertising Exp		\$ 57,135.19		\$ 57,135.19	\$ 54,408.95	
0930200	Misc General Expenses	\$ 139,743.00	\$ 340,413.57	\$ (984.27)	\$ 339,429.30	\$ (468,960.92)	
0930220	Exp Of Servicing Securities		\$ 9,607.92		\$ 9,607.92	\$ 9,607.92	
0930230	Dues To Various Organizations		\$ 5,558.95		\$ 5,558.95	\$ 5,558.95	
0930240	Director'S Expenses		\$ 48,343.90		\$ 48,343.90	\$ 27,319.05	
0930250	Buy/Sell Transf Employee Homes		\$ 10,768.28		\$ 10,768.28	\$ 10,768.28	
0930700	Research & Development		\$ 737.12		\$ 737.12	\$ 459.77	
0930940	General Expenses		\$ 594,219.66		\$ 594,219.66	\$ 594,200.17	
0931001	Rents-A&G		\$ 1,492,511.51		\$ 1,492,511.51	\$ 1,492,511.51	
0931003	Lease Amortization Expense		\$ (30,709.85)		\$ (30,709.85)	\$ (30,709.85)	
0931008	A&G Rents-IC		\$ 528,646.41		\$ 528,646.41	\$ 528,646.41	
0932000	Maintenance Of Gen Plant-Gas		\$ 28,459.27		\$ 28,459.27	\$ 13,511.76	
0935100	Maint General Plant-Elec		\$ 5,347.58		\$ 5,347.58	\$ 5,347.58	
0935200	Cust Infor & Computer Control		\$ (768.44)		\$ (768.44)	\$ (768.44)	
Total TN O&M			\$ 53,648,238.19		\$ 53,648,238.19	\$ 33,153,383.98	
	T&D Exp	(11,097,973.60)	\$ 11,049,335.53	\$ -	\$ 11,049,335.53	\$ 11,049,335.53	\$ 10,616.74
	T&D Exp check		\$ 11,049,335.40	\$ -	\$ 11,049,335.40		
	Customer Exp	(1,774,022.18)	\$ 1,453,735.91	\$ (14,421.00)	\$ 1,439,314.91	\$ 1,439,314.69	\$ 21,782.32
	Customer Exp check		\$ 1,453,735.82	\$ (14,421.00)	\$ 1,439,314.82		
	Uncollectible	(623,433.00)	\$ 1,586,999.81	\$ (1,187,691.00)	\$ 399,308.81	\$ 1,586,999.60	\$ -
	Uncollectible check		\$ 1,587,000.00	\$ (1,187,691.00)	\$ 399,309.00		
	Sales Expense	(739,318.43)	\$ 326,514.72	\$ (61,365.00)	\$ 265,149.72	\$ 265,150.10	\$ 46,115.50
	Sales Expense check		\$ 326,515.00	\$ (61,365.00)	\$ 265,150.00		
	A&G Expense	14,234,747.22	\$ 39,231,652.21	\$ 1,459,991.90	\$ 40,691,644.11	\$ 18,812,584.06	\$ -
	A&G Expense check		\$ 39,231,651.78	\$ 1,459,991.90	\$ 40,691,643.68		
	Total	(0.00)	\$ 53,648,238.19	\$ 196,514.90	\$ 53,844,753.09	\$ 33,153,383.98	
			\$ 53,648,238.00	\$ 196,514.90	\$ 53,844,752.90		

Piedmont Natural Gas Company Inc.
Tennessee Operations - Total O&M - by Account Number
For the Twelve Months Ended 3/31/2020

		Sales Growth Factor Multiply by Customer Growth Factor: 1.032521	Multipled by Growth Factor: compound In fac 1.04646	Estimated Attrition Period Adjustment	Attrition Period	Total Adjustments	Attrition Period S&W
Account Number	Account Name						
0735000	Gas Misc Production Exp		79,894.69	\$ 3,547.11	\$ 79,894.69	\$ 3,547.11	\$ 6,254.14
0807000	Gas Purchased Expenses		121,277.46	\$ 5,384.39	\$ 121,277.46	\$ 5,384.39	\$ 193,671.72
0840000	Operation Supv & Eng-OSTG		(15,658.20)	\$ (695.18)	\$ (15,658.20)	\$ (695.18)	\$ (252.28)
0843500	LNG Maint Liquefaction Equip		27,269.95	\$ 1,210.71	\$ 27,269.95	\$ 1,210.71	\$ -
0843600	LNG Maint Vaporization Equip		5,766.15	\$ 256.00	\$ 5,766.15	\$ 256.00	\$ -
0843900	LNG Maint Other Storage Equip		12,053.95	\$ 535.16	\$ 12,053.95	\$ 535.16	\$ 95.77
0844100	LNG Ops Supv Eng Labor & Exp		45,671.48	\$ 2,027.69	\$ 45,671.48	\$ 2,027.69	\$ 211,815.95
0846201	LNG Operation Labor & Exp		503,883.96	\$ 22,371.09	\$ 503,883.96	\$ 22,371.09	\$ 666,806.85
0851000	System Control & Load Dispatch		142,369.42	\$ 6,320.82	\$ 142,369.42	\$ 6,320.82	\$ 323,182.08
0853000	Compressor Station Labor & Exp		166,532.55	\$ 7,393.60	\$ 166,532.55	\$ 7,393.60	\$ 78,239.77
0856001	Mains Expenses		39,989.88	\$ 1,775.44	\$ 39,989.88	\$ 1,775.44	\$ 365.94
0859000	Other Expenses-Trans		15,246.04	\$ 676.88	\$ 15,246.04	\$ 676.88	\$ 37,646.01
0861000	Maintenance Supv & Eng-Tran		27,399.94	\$ 1,216.48	\$ 27,399.94	\$ 1,216.48	\$ 136,979.38
0862000	Maint Struct & Improve-Tran		11,225.51	\$ 498.38	\$ 11,225.51	\$ 498.38	\$ 37,043.75
0863000	Transm-Maint of Mains		2,574,622.61	\$ 114,306.30	\$ 2,574,622.61	\$ 114,306.30	\$ 189,428.64
0864000	Maint Compressor Sta Eq-Tran		88,046.29	\$ 3,909.02	\$ 88,046.29	\$ 3,909.02	\$ 44,724.08
0865000	Maint Of M & R Station Eq-Tran		15,132.77	\$ 671.85	\$ 15,132.77	\$ 671.85	\$ 31,319.08
0870000	Distribution Sys Ops-Supv/Eng		41,907.98	\$ 1,860.60	\$ 41,907.98	\$ 1,860.60	\$ 205,846.88
0871000	Distribution Load Dispatching		97,124.13	\$ 4,312.05	\$ 97,124.13	\$ 4,312.05	\$ 31.48
0874000	Mains And Services		3,489,421.28	\$ 154,920.89	\$ 3,489,421.28	\$ 154,920.89	\$ 754,349.32
0875000	Measuring And Reg Stations-Ge		32,750.19	\$ 1,454.02	\$ 32,750.19	\$ 1,454.02	\$ 9,527.61
0878000	Meter And House Regulator Exp		429,910.89	\$ 19,086.88	\$ 429,910.89	\$ 19,086.88	\$ 2,105,742.62
0879000	Customer Installation Expense		258,169.26	\$ 11,462.02	\$ 258,169.26	\$ 11,462.02	\$ 1,243,849.54
0880000	Gas Distribution-Other Expense		883,026.77	\$ 39,204.01	\$ 883,026.77	\$ 39,204.01	\$ 1,059,217.49
0885000	Maint Dist Sys Fac- Supv/Engr		140,497.35	\$ 16,854.45	\$ 140,497.35	\$ 16,854.45	\$ 590,138.96
0887000	Maintenance of Mains		1,204,742.52	\$ 53,487.32	\$ 1,204,742.52	\$ 53,487.32	\$ 1,417,649.36
0889000	Maint-Meas/Reg Stn Equip-Gas		289,037.12	\$ 12,832.47	\$ 289,037.12	\$ 12,832.47	\$ 677,335.53
0889001	Maint CNG Fuel Stations-Dist		95,597.74	\$ 4,244.28	\$ 95,597.74	\$ 4,244.28	\$ 95,220.13
0890000	Maint - Meas/Reg Stn Eq-Indus		7,442.26	\$ 330.42	\$ 7,442.26	\$ 330.42	\$ 15,389.64
0891000	Maint M&R equip City Gate		114.66	\$ 5.09	\$ 114.66	\$ 5.09	\$ 456.61
0892000	Maintenance of Services		562,166.91	\$ 24,958.69	\$ 562,166.91	\$ 24,958.69	\$ 111,635.34
0893000	Maint - Meters And House Reg		184,031.17	\$ 8,170.49	\$ 184,031.17	\$ 8,170.49	\$ 840,424.67
0894000	Maint-Other Distribution Equip		(2,867.04)	\$ (127.29)	\$ (2,867.04)	\$ (127.29)	\$ 5,570.01
0901000	Supervision-Cust Accts		2,823.38	\$ 210.33	\$ 2,823.38	\$ 210.33	\$ 20,684.46
0902000	Meter Reading Expense		7,075.97	\$ 527.13	\$ 7,075.97	\$ 527.13	\$ 167,483.86
0903000	Cust Records & Collection Exp		20,627.34	\$ 1,536.65	\$ 20,627.34	\$ 1,536.65	\$ 267,570.44
0903100	Cust Contracts & Orders-Local		593,737.18	\$ 44,230.83	\$ 593,737.40	\$ 29,809.83	\$ 531,297.04
0903200	Cust Billing & Acct		819,536.09	\$ 61,051.86	\$ 819,536.09	\$ 61,051.86	\$ 686,442.10
0903300	Cust Collecting-Local			\$ 12,045.00	\$ 411,353.81	\$ (1,175,646.00)	\$ 588,250.39
0905000	Misc Customer Accts Expenses		679.50	\$ 50.62	\$ 679.50	\$ 50.62	\$ -
0908000	Cust Asst Exp-Conservation Pro		1,317.99	\$ 98.18	\$ 1,317.99	\$ 98.18	\$ -
0909650	Misc Advertising Expenses		134,377.09	\$ 31,792.83	\$ 134,377.09	\$ 31,792.83	\$ -
0910000	Misc Cust Serv/Inform Exp		1,743.13	\$ 129.86	\$ 1,743.13	\$ 129.86	\$ 10,582.85
0910100	Exp-Rs Reg Prod/Svces-CstAccts		(3,214.13)	\$ (239.44)	\$ (3,214.13)	\$ (239.44)	\$ (153.20)
0912000	Demonstrating & Selling Exp		268,602.91	\$ 66,125.25	\$ 268,602.53	\$ 4,760.25	\$ 208,817.53
0913001	Advertising Expense		46,491.83	\$ 3,463.44	\$ 46,491.83	\$ 3,463.44	\$ 273.32
0916000	Misc Sales Expenses		21,225.23	\$ 1,581.19	\$ 21,225.23	\$ 1,581.19	\$ 476,854.70
0920000	A & G Salaries			\$ 633,305.05	\$ 20,993,990.91	\$ 574,922.22	\$ 3,861,549.04
0920100	Salaries & Wages - Proj Supt -			\$ (40.53)	\$ -	\$ -	\$ -
0921100	Employee Expenses			\$ -	\$ 173,236.32	\$ -	\$ -
0921101	Employee Exp - NC			\$ -	\$ 108.13	\$ -	\$ -
0921110	Relocation Expenses			\$ -	\$ 207.57	\$ -	\$ -
0921200	Office Expenses			\$ -	\$ 951,043.68	\$ -	\$ 86.15
0921300	Telephone And Telegraph Exp			\$ -	\$ 1,774.02	\$ -	\$ -
0921400	Computer Services Expenses			\$ -	\$ 325,440.46	\$ -	\$ 51.92
0921540	Computer Rent (Go Only)			\$ -	\$ 529,640.42	\$ -	\$ -

Piedmont Natural Gas Company Inc.
Tennessee Operations - Total O&M - by Account Number
For the Twelve Months Ended 3/31/2020

Account Number	Account Name	Sales Growth Factor Multiply by Customer Growth Factor: 1.032521	Multiplied by Growth Factor: compound In fac 1.04646	Estimated Attrition Period Adjustment	Attrition Period	Total Adjustments	Attrition Period S&W
0921600	Other				\$ 5,230.65	\$ -	\$ -
0921900	Office Supply And Exp-Partner				\$ 72.29	\$ -	\$ -
0921980	Office Supplies & Expenses				\$ 2,298,911.90	\$ -	\$ 52.22
0922000	Admin Exp Transfer				\$ 291.00	\$ -	\$ 42.73
0923000	Outside Services Employed			100,000.00	\$ 3,210,621.99	\$ 100,000.00	\$ 767.09
0923100	Outside Svcs Cont -Proj Supt -				\$ 142.52	\$ -	\$ -
0923980	Outside Services Employee &				\$ 32,986.78	\$ -	\$ -
0924000	Property Insurance				\$ 2,172.10	\$ -	\$ -
0924050	Inter-Co Prop Ins Exp				\$ 35,842.49	\$ -	\$ -
0924980	Property Insurance For Corp.				\$ 127,618.38	\$ -	\$ -
0925000	Injuries & Damages				\$ 369,723.31	\$ -	\$ -
0925051	INTER-CO GEN LIAB EXP				\$ 232,273.70	\$ -	\$ -
0925100	Accrued Inj And Damages				\$ 57.16	\$ -	\$ -
0925200	Injuries And Damages-Other			15,129.00	\$ 16,393.97	\$ 15,129.00	\$ 3,703.64
0925980	Injuries And Damages For Corp.				\$ 13,682.23	\$ -	\$ -
0926000	Employee Benefits			103,609.00	\$ 11,987,410.46	\$ 1,622,968.00	\$ 2,248.66
0926600	Employee Benefits-Transferred				\$ (1,590,491.07)	\$ -	\$ 0.35
0926999	Non Serv Pension (ASU 2017-07)				\$ (2,671,554.12)	\$ -	\$ -
0928000	Regulatory Expenses (Go)				\$ 456,524.38	\$ -	\$ -
0928014	Regulatory Commission Expenses			1,195,550.00	\$ 2,141,555.22	\$ 1,195,550.00	\$ -
0928052	Employee Benefits				\$ 5,139.35	\$ -	\$ 2,386.53
0928053	Travel Expenses				\$ (55.30)	\$ -	\$ -
0930150	Miscellaneous Advertising Exp				\$ 57,135.19	\$ -	\$ 2,428.38
0930200	Misc General Expenses			483,392.00	\$ 822,821.30	\$ 482,407.73	\$ 665,569.66
0930220	Exp Of Servicing Securities				\$ 9,607.92	\$ -	\$ -
0930230	Dues To Various Organizations				\$ 5,558.95	\$ -	\$ -
0930240	Director'S Expenses				\$ 48,343.90	\$ -	\$ -
0930250	Buy/Sell Transf Employee Homes				\$ 10,768.28	\$ -	\$ -
0930700	Research & Development				\$ 737.12	\$ -	\$ 262.52
0930940	General Expenses				\$ 594,219.66	\$ -	\$ 18.44
0931001	Rents-A&G			239,858.00	\$ 1,732,369.51	\$ 239,858.00	\$ -
0931003	Lease Amortization Expense				\$ (30,709.85)	\$ -	\$ -
0931008	A&G Rents-IC				\$ 528,646.41	\$ -	\$ -
0932000	Maintenance Of Gen Plant-Gas				\$ 28,459.27	\$ -	\$ 14,287.97
0935100	Maint General Plant-Elec				\$ 5,347.58	\$ -	\$ -
0935200	Cust Infor & Computer Control				\$ (768.44)	\$ -	\$ -
Total TN O&M							
	T&D Exp			524,462.13	\$ 11,573,797.66	\$ 524,462.13	\$ 11,089,706.08
	T&D Exp check			524,462.13	\$ 11,573,798.00		
	Customer Exp	\$ (14,421.22)		139,388.83	\$ 1,578,703.74	\$ 124,967.83	\$ 1,683,907.55
	Customer Exp check			139,388.83	\$ 1,578,704.00		
	Uncollectible			12,045.48	\$ 411,353.81	\$ (1,175,646.00)	\$ 588,250.39
	Uncollectible check			12,045.00	\$ 411,354.00		
	Sales Expense	\$ (61,364.63)		71,169.87	\$ 336,319.60	\$ 9,804.87	\$ 685,945.55
	Sales Expense check			71,170.00	\$ 336,320.00		
	A&G Expense	-		2,770,843.05	\$ 43,462,487.16	\$ 4,230,834.95	\$ 4,553,455.28
	A&G Expense check			2,770,843.05	\$ 43,462,486.73		
	Total			3,517,909.35	\$ 57,362,661.97	\$ 3,714,423.78	\$ 18,601,264.86
				3,517,909.83	\$ 57,362,662.73		\$ 18,601,265.00

Piedmont Natural Gas Company Inc.
Tennessee Operations - Total O&M - by Account Number
For the Twelve Months Ended 3/31/2020

Account Number	Account Name	Labor		Labor		Attrition Period Labor Adjustment	Attrition Period Labor by Acct
		Test Period Labor Per Books	Accting/Ratemaking Adjustments	Per Books As Adjusted	5.540% 5.540%		
0735000	Gas Misc Production Exp	5,925.83		5,925.83		328.31	6,254.14
0807000	Gas Purchased Expenses	183,504.95		183,504.95		10,166.77	193,671.72
0840000	Operation Supv & Eng-OSTG	(239.04)		(239.04)		(13.24)	(252.28)
0843500	LNG Maint Liquefaction Equip	-		-		-	-
0843600	LNG Maint Vaporization Equip	-		-		-	-
0843900	LNG Maint Other Storage Equip	90.74		90.74		5.03	95.77
0844100	LNG Ops Supv Eng Labor & Exp	200,696.70		200,696.70		11,119.25	211,815.95
0846201	LNG Operation Labor & Exp	631,802.92		631,802.92		35,003.93	666,806.85
0851000	System Control & Load Dispatch	306,216.68		306,216.68		16,965.40	323,182.08
0853000	Compressor Station Labor & Exp	74,132.58		74,132.58		4,107.19	78,239.77
0856001	Mains Expenses	346.73		346.73		19.21	365.94
0859000	Other Expenses-Trans	35,669.79		35,669.79		1,976.22	37,646.01
0861000	Maintenance Supv & Eng-Tran	129,788.67		129,788.67		7,190.71	136,979.38
0862000	Maint Struct & Improve-Tran	35,099.14		35,099.14		1,944.61	37,043.75
0863000	Transm-Maint of Mains	179,484.61		179,484.61		9,944.03	189,428.64
0864000	Maint Compressor Sta Eq-Tran	42,376.30		42,376.30		2,347.78	44,724.08
0865000	Maint Of M & R Station Eq-Tran	29,674.99		29,674.99		1,644.09	31,319.08
0870000	Distribution Sys Ops-Supv/Eng	195,040.98		195,040.98		10,805.90	205,846.88
0871000	Distribution Load Dispatching	29.83		29.83		1.65	31.48
0874000	Mains And Services	714,749.86		714,749.86		39,599.46	754,349.32
0875000	Measuring And Reg Stations-Ge	9,027.46		9,027.46		500.15	9,527.61
0878000	Meter And House Regulator Exp	1,995,201.95		1,995,201.95		110,540.67	2,105,742.62
0879000	Customer Installation Expense	1,178,553.83		1,178,553.83		65,295.71	1,243,849.54
0880000	Gas Distribution-Other Expense	1,003,614.01		1,003,614.01		55,603.48	1,059,217.49
0885000	Maint Dist Sys Fac- Supv/Engr	559,159.70		559,159.70		30,979.26	590,138.96
0887000	Maintenance of Mains	1,343,230.05		1,343,230.05		74,419.31	1,417,649.36
0889000	Maint-Meas/Reg Stn Equip-Gas	641,778.90		641,778.90		35,556.64	677,335.53
0889001	Maint CNG Fuel Stations-Dist	90,221.56		90,221.56		4,998.57	95,220.13
0890000	Maint - Meas/Reg Stn Eq-Indus	14,581.76		14,581.76		807.88	15,389.64
0891000	Maint M&R equip City Gate	432.64		432.64		23.97	456.61
0892000	Maintenance of Services	105,775.06		105,775.06		5,860.28	111,635.34
0893000	Maint - Meters And House Reg	796,306.69		796,306.69		44,117.98	840,424.67
0894000	Maint-Other Distribution Equip	5,277.61		5,277.61		292.40	5,570.01
0901000	Supervision-Cust Accts	19,598.63		19,598.63		1,085.83	20,684.46
0902000	Meter Reading Expense	158,691.82		158,691.82		8,792.04	167,483.86
0903000	Cust Records & Collection Exp	253,524.37		253,524.37		14,046.07	267,570.44
0903100	Cust Contracts & Orders-Local	503,406.67		503,406.67		27,890.37	531,297.04
0903200	Cust Billing & Acct	650,407.42		650,407.42		36,034.68	686,442.10
0903300	Cust Collecting-Local	557,370.27		557,370.27		30,880.12	588,250.39
0905000	Misc Customer Accts Expenses	-		-		-	-
0908000	Cust Asst Exp-Conservation Pro	-		-		-	-
0909650	Misc Advertising Expenses	-		-		-	-
0910000	Misc Cust Serv/Inform Exp	10,027.31		10,027.31		555.55	10,582.85
0910100	Exp-Rs Reg Prod/Svces-CstAccts	(145.16)		(145.16)		(8.04)	(153.20)
0912000	Demonstrating & Selling Exp	197,855.68		197,855.68		10,961.85	208,817.53
0913001	Advertising Expense	258.97		258.97		14.35	273.32
0916000	Misc Sales Expenses	451,822.28		451,822.28		25,032.42	476,854.70
0920000	A & G Salaries	3,717,260.01	(58,422.46)	3,658,837.55		202,711.49	3,861,549.04
0920100	Salaries & Wages - Proj Supt -	-		-		-	-
0921100	Employee Expenses	-		-		-	-
0921101	Employee Exp - NC	-		-		-	-
0921110	Relocation Expenses	-		-		-	-
0921200	Office Expenses	81.62		81.62		4.52	86.15
0921300	Telephone And Telegraph Exp	-		-		-	-
0921400	Computer Services Expenses	49.19		49.19		2.73	51.92
0921540	Computer Rent (Go Only)	-		-		-	-

Piedmont Natural Gas Company Inc.
Tennessee Operations - Total O&M - by Account Number
For the Twelve Months Ended 3/31/2020

Account Number	Account Name	Test Period Labor Per Books	Labor Accting/Ratemaking Adjustments	Labor Per Books As Adjusted	5.540%	
					Attrition Period Labor Adjustment	Attrition Period Labor by Acct
0921600	Other	-	-	-	-	-
0921900	Office Supply And Exp-Partner	-	-	-	-	-
0921980	Office Supplies & Expenses	49.48	-	49.48	2.74	52.22
0922000	Admin Exp Transfer	40.48	-	40.48	2.24	42.73
0923000	Outside Services Employed	726.82	-	726.82	40.27	767.09
0923100	Outside Svcs Cont -Proj Supt -	-	-	-	-	-
0923980	Outside Services Employee &	-	-	-	-	-
0924000	Property Insurance	-	-	-	-	-
0924050	Inter-Co Prop Ins Exp	-	-	-	-	-
0924980	Property Insurance For Corp.	-	-	-	-	-
0925000	Injuries & Damages	-	-	-	-	-
0925051	INTER-CO GEN LIAB EXP	-	-	-	-	-
0925100	Accrued Inj And Damages	-	-	-	-	-
0925200	Injuries And Damages-Other	3,509.22	-	3,509.22	194.42	3,703.64
0925980	Injuries And Damages For Corp.	-	-	-	-	-
0926000	Employee Benefits	2,130.61	-	2,130.61	118.04	2,248.66
0926600	Employee Benefits-Transferred	0.33	-	0.33	0.02	0.35
0926999	Non Serv Pension (ASU 2017-07)	-	-	-	-	-
0928000	Regulatory Expenses (Go)	-	-	-	-	-
0928014	Regulatory Commission Expenses	-	-	-	-	-
0928052	Employee Benefits	2,261.25	-	2,261.25	125.28	2,386.53
0928053	Travel Expenses	-	-	-	-	-
0930150	Miscellaneous Advertising Exp	2,300.90	-	2,300.90	127.48	2,428.38
0930200	Misc General Expenses	630,630.67	-	630,630.67	34,938.99	665,569.66
0930220	Exp Of Servicing Securities	-	-	-	-	-
0930230	Dues To Various Organizations	-	-	-	-	-
0930240	Director'S Expenses	-	-	-	-	-
0930250	Buy\Sell Transf Employee Homes	-	-	-	-	-
0930700	Research & Development	248.74	-	248.74	13.78	262.52
0930940	General Expenses	17.47	-	17.47	0.97	18.44
0931001	Rents-A&G	-	-	-	-	-
0931003	Lease Amortization Expense	-	-	-	-	-
0931008	A&G Rents-IC	-	-	-	-	-
0932000	Maintenance Of Gen Plant-Gas	13,537.92	-	13,537.92	750.04	14,287.97
0935100	Maint General Plant-Elec	-	-	-	-	-
0935200	Cust Infor & Computer Control	-	-	-	-	-
Total TN O&M		17,683,216.46	(58,422.46)	17,624,794.00	976,470.86	18,601,264.86
	T&D Exp			17,624,794.00		0.14
	T&D Exp check			0.00		
	Customer Exp					
	Customer Exp check					
	Uncollectible					
	Uncollectible check					
	Sales Expense					
	Sales Expense check					
	A&G Expense					
	A&G Expense check					
	Total					

Piedmont Natural Gas Company TN
Allocation of Fixed Pipeline Demand Charges on Proportional Responsibility Method
12 Months Ended Dec 31, 2021

	Residential Service Rate 301	Small General Service Rate 302	Medium Service Rate 352	Large General Service Rate 303	Firm Trans Service Rate 313	Sales for Resale Rate 310	Total
Proportional Allocation Factor	56.2095%	24.1990%	9.1510%	3.0093%	7.4179%	0.0133%	100.0000%
Allocated Fixed Pipeline Charges 5-1-20	\$10,155,601	\$4,372,137	\$1,653,353	\$543,696	\$1,340,225	\$2,407	\$18,067,420
Demand Charge Revenues 3-31-20	\$9,836,398	\$4,523,734	\$1,694,217	\$670,568	\$1,327,594	\$14,909	\$18,067,420
Percent Increase (Decrease)	3.25%	-3.35%	-2.41%	-18.92%	0.95%	-83.86%	0.00%

Proportional Responsibility

Pipeline Demand Cost Allocator

The Proportional Responsibility Method is a capacity allocation procedure which considers the monthly variation in sales by customer class. Months with higher total usage are given more weight than lower usage months. The method was first developed by Gary H. Grainger of Wisconsin Public Service Corporation and published November 9, 1972 in *Public Utilities Fortnightly*.

The Proportional Responsibility (“PR”) Method is used to allocate gas pipeline demand costs to customer classes. Each customer class is assigned the pipeline demand costs based upon the variation of usage across all twelve months of the test year. In this manner, the PR method recognizes that the pipeline demand cost has some value each month throughout the year, though that value is greatly diminished in the summer months when system loads are much lower.

The following procedure describes the step-by-step calculation of the pipeline demand costs shown in the following workpapers:

1. List all firm sales by month by rate class.
2. Normalize monthly sales data by computing the ratio of each rate class’s monthly sales to the total monthly sales.
3. Rank the monthly sales, using the rank of 1 for the peak sales month and the rank of 12 for the lowest sales month.
4. Calculate the “% of peak month” defined as the ratio of sales in each month relative to the sales in the peak month. The % of peak factor for the month ranked #1 would equal 100% and the ratio for each subsequent month ranked would be less than unity.
5. Develop individual weighting factors for the twelve months. For each month starting with the 12th ranked month, calculate the difference in the n th ranked month’s peak factor, as determined in step 4 above, and the $n+1$ ranked month’s factor. Divide this difference by n and obtain the individual month’s weighting factor. For $n+1 = 13$, use 0 percent as the month’s peak factor. Thus, the individual monthly weighting factor for the 12th month is simply the peak factor for that month divided by 12.
6. Develop cumulative weighting factors for the twelve months starting with the 12th ranked month and continuing to the first ranked month. The cumulative weighting factor is computed by adding the month’s individual weighting factor to the $n-1$ month’s cumulative weighting factor. Following this process, the sum of the cumulative weighting factor for all 12 months should equal 100%.
7. For each customer class, multiply the normalized sales factor for the customer class developed

in step 2 by the respective monthly cumulative weighting factor developed in step 6.

8. For each customer class, sum the twelve monthly proportionality factors, as determined in step 7 and use these percentages as the gas pipeline demand allocation factor.

Piedmont Natural Gas Company TN
TOTAL SENDOUT BY RATE CLASS
BY RATE CLASS
12 Months Ended Dec 31, 2021

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CALENDAR MO SENDOUT - Therms

DATE	Residential Service Rate 301	Small General Service Rate 302	Medium General Service Rate 352	Large General Service Rate 303	Firm Trans Service Rate 313	Sales for Resale Rate 310			TOTAL SENDOUT
NOV	16,056,890	6,758,888	2,560,116	1,031,747	2,202,938	5,075			28,615,654
DEC	22,618,787	9,031,291	3,454,515	1,085,642	2,323,304	5,689			38,519,228
JAN	25,742,578	10,131,925	3,888,184	1,125,535	2,388,217	6,090			43,282,528
FEB	22,261,510	8,935,694	3,416,374	887,883	2,143,215	4,676			37,649,352
MAR	14,948,811	6,419,336	2,427,180	609,896	1,817,881	2,191			26,225,294
APR	8,395,724	4,170,798	1,545,795	491,877	1,606,701	775			16,211,669
MAY	3,851,760	2,608,078	933,413	405,200	1,430,671	528			9,229,649
JUN	2,313,314	2,077,322	725,990	381,684	1,339,966	595			6,838,872
JUL	2,100,250	2,000,694	695,832	389,531	1,343,519	722			6,530,548
AUG	2,117,811	2,004,441	696,451	391,114	1,306,054	766			6,516,638
SEP	3,047,820	2,318,465	819,701	475,349	1,468,329	1,120			8,130,785
OCT	8,040,963	4,017,840	1,485,301	799,057	1,932,314	3,225			16,278,699
TOTAL	131,496,220	60,474,772	22,648,852	8,074,514	21,303,108	31,451	0	0 244,028,917	244,028,917

Piedmont Natural Gas Company TN
TOTAL FIRM SENDOUT
BY RATE CLASS
12 Months Ended Dec 31, 2021

Exhibit PMN-9-COS
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CALENDAR MO SENDOUT - Therms

DATE	Residential Service Rate 301	Small General Service Rate 302	Medium General Service Rate 352	Large General Service Rate 303	Firm Trans Service Rate 313	Sales for Resale Rate 310	0 0 0	0 0 0	TOTAL FIRM SENDOUT
NOV	16,056,890	6,758,888	2,560,116	1,031,747	2,202,938	5,075	0	0	28,615,654
DEC	22,618,787	9,031,291	3,454,515	1,085,642	2,323,304	5,689	0	0	38,519,228
JAN	25,742,578	10,131,925	3,888,184	1,125,535	2,388,217	6,090	0	0	43,282,528
FEB	22,261,510	8,935,694	3,416,374	887,883	2,143,215	4,676	0	0	37,649,352
MAR	14,948,811	6,419,336	2,427,180	609,896	1,817,881	2,191	0	0	26,225,294
APR	8,395,724	4,170,798	1,545,795	491,877	1,606,701	775	0	0	16,211,669
MAY	3,851,760	2,608,078	933,413	405,200	1,430,671	528	0	0	9,229,649
JUN	2,313,314	2,077,322	725,990	381,684	1,339,966	595	0	0	6,838,872
JUL	2,100,250	2,000,694	695,832	389,531	1,343,519	722	0	0	6,530,548
AUG	2,117,811	2,004,441	696,451	391,114	1,306,054	766	0	0	6,516,638
SEP	3,047,820	2,318,465	819,701	475,349	1,468,329	1,120	0	0	8,130,785
OCT	8,040,963	4,017,840	1,485,301	799,057	1,932,314	3,225	0	0	16,278,699
TOTAL	131,496,220	60,474,772	22,648,852	8,074,514	21,303,108	31,451	0	0	244,028,917

Piedmont Natural Gas Company TN
TOTAL SENDOUT
BY RATE CLASS NORMALIZED
12 Months Ended Dec 31, 2021

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CALENDAR MO SENDOUT - Therms

DATE	Residential Service Rate 301	Small General Service Rate 302	Medium General Service Rate 352	Large General Service Rate 303	Firm Trans Service Rate 313	Sales for Resale Rate 310	0 0 0	0 0 0	FIRM SENDOUT
NOV	0.561123	0.236195	0.089466	0.036055	0.076984	0.000177	0.000000	0.000000	1.000000
DEC	0.587208	0.234462	0.089683	0.028184	0.060315	0.000148	0.000000	0.000000	1.000000
JAN	0.594757	0.234088	0.089833	0.026004	0.055177	0.000141	0.000000	0.000000	1.000000
FEB	0.591285	0.237340	0.090742	0.023583	0.056926	0.000124	0.000000	0.000000	1.000000
MAR	0.570015	0.244776	0.092551	0.023256	0.069318	0.000084	0.000000	0.000000	1.000000
APR	0.517882	0.257271	0.095351	0.030341	0.099108	0.000048	0.000000	0.000000	1.000000
MAY	0.417325	0.282576	0.101132	0.043902	0.155008	0.000057	0.000000	0.000000	1.000000
JUN	0.338260	0.303752	0.106156	0.055811	0.195934	0.000087	0.000000	0.000000	1.000000
JUL	0.321604	0.306359	0.106550	0.059647	0.205728	0.000111	0.000000	0.000000	1.000000
AUG	0.324985	0.307588	0.106873	0.060018	0.200418	0.000118	0.000000	0.000000	1.000000
SEP	0.374849	0.285147	0.100815	0.058463	0.180589	0.000138	0.000000	0.000000	1.000000
OCT	0.493956	0.246816	0.091242	0.049086	0.118702	0.000198	0.000000	0.000000	1.000000
TOTAL	0.538855	0.247818	0.092812	0.033088	0.087297	0.000129	0.000000	0.000000	1.000000

Piedmont Natural Gas Company TN
DEVELOPMENT OF PROPORTIONAL RESPONSIBILITY WEIGHTINGS

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CALENDAR MO SENDOUT - Therms

12 Months Ended Dec 31, 2021

DATE	Total Sendout	Ranking	Percent of Peak Month	Next Ranked Month	Next Ranked Month Percent of Peak Month	Difference	Individual Weighting Factors	Cumulative Weighting Factors		
							weight	rank	rank	
NOV	28,615,654	4	66.1136%	5	60.5909%	5.5227%	1.3807%	4	10.2849%	>=4 rank
DEC	38,519,228	2	88.9949%	3	86.9851%	2.0098%	1.0049%	2	18.2469%	>=2
JAN	43,282,528	1	100.0000%	2	88.9949%	11.0051%	11.0051%	1	29.2521%	>=1 rank
FEB	37,649,352	3	86.9851%	4	66.1136%	20.8715%	6.9572%	3	17.2421%	>=3
MAR	26,225,294	5	60.5909%	6	37.6103%	22.9806%	4.5961%	5	8.9042%	>=5 rank
APR	16,211,669	7	37.4555%	8	21.3242%	16.1313%	2.3045%	7	4.2823%	>=7
MAY	9,229,649	8	21.3242%	9	18.7854%	2.5388%	0.3174%	8	1.9778%	>=8 rank
JUN	6,838,872	10	15.8005%	11	15.0882%	0.7124%	0.0712%	10	1.3288%	>=10
JUL	6,530,548	11	15.0882%	12	15.0560%	0.0321%	0.0029%	11	1.2576%	>=11 rank
AUG	6,516,638	12	15.0560%		0.0000%	15.0560%	1.2547%	12	1.2547%	>=12
SEP	8,130,785	9	18.7854%	10	15.8005%	2.9848%	0.3316%	9	1.6605%	>=9 rank
OCT	16,278,699	6	37.6103%	7	37.4555%	0.1549%	0.0258%	6	4.3081%	>=6
TOTAL	244,028,917								100.0000%	

Piedmont Natural Gas Company TN
PROPORTIONAL RESPONSIBILITY ALLOCATION FACTORS
12 Months Ended Dec 31, 2021

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CALENDAR MO SENDOUT - Therms

DATE	Residential Service Rate 301	Small General Service Rate 302	Medium General Service Rate 352	Large General Service Rate 303	Firm Trans Service Rate 313	Sales for Resale Rate 310	0 0 0	0 0 0	FIRM SENDOUT
NOV	5.771092%	2.429248%	0.920145%	0.370825%	0.791770%	0.001824%	0.000000%	0.000000%	10.284903%
DEC	10.714743%	4.278212%	1.636438%	0.514279%	1.100572%	0.002695%	0.000000%	0.000000%	18.246939%
JAN	17.397870%	6.847563%	2.627791%	0.760682%	1.614053%	0.004116%	0.000000%	0.000000%	29.252074%
FEB	10.194977%	4.092229%	1.564577%	0.406619%	0.981516%	0.002142%	0.000000%	0.000000%	17.242059%
MAR	5.075545%	2.179546%	0.824096%	0.207077%	0.617222%	0.000744%	0.000000%	0.000000%	8.904230%
APR	2.217721%	1.101712%	0.408320%	0.129929%	0.424408%	0.000205%	0.000000%	0.000000%	4.282295%
MAY	0.825396%	0.558887%	0.200022%	0.086830%	0.306579%	0.000113%	0.000000%	0.000000%	1.977828%
JUN	0.449489%	0.403634%	0.141064%	0.074163%	0.260362%	0.000116%	0.000000%	0.000000%	1.328827%
JUL	0.404447%	0.385275%	0.133997%	0.075012%	0.258722%	0.000139%	0.000000%	0.000000%	1.257592%
AUG	0.407749%	0.385922%	0.134090%	0.075303%	0.251459%	0.000148%	0.000000%	0.000000%	1.254671%
SEP	0.622429%	0.473479%	0.167400%	0.097076%	0.299863%	0.000229%	0.000000%	0.000000%	1.660476%
OCT	2.128015%	1.063308%	0.393080%	0.211468%	0.511381%	0.000853%	0.000000%	0.000000%	4.308106%
	56.209472%	24.199014%	9.151020%	3.009263%	7.417908%	0.013322%	0.000000%	0.000000%	100.000000%
	=====	=====	=====	=====	=====	=====	=====	=====	=====



The Proportional Responsibility Method of Capacity Cost Allocation

"Proportional responsibility," a new capacity cost allocation method, is designed to give a realistic and reasonable distribution of imbedded capacity costs, making it ideal for rate design purposes, rate of return determination, and support in rate cases. Other methods of capacity allocation, including their inherent fallacies, are also discussed.

By GARY H. GRAINGER

THE importance of cost-of-service studies has long been recognized in the electric utility industry. This importance is evident when you consider the numerous uses that are made of these studies, as illustrated by the following list:

Uses of Cost-of-service Studies

1. Determination of rate of return by customer group.
2. Rate design.
3. Sales promotion policy.
4. Support in rate cases before regulatory authorities.
5. Cost trends.
6. Engineering policy.

In the preparation of these studies, the allocation of capacity costs is the most significant part of the study for two reasons. First, capacity costs are generally the largest individual segment of costs, and, second, there is no universally accepted method for allocating these costs.

The remainder of this article is devoted to reviewing some of the common methods of capacity allocation, including a discussion of their inherent fallacies and then the development of a new method of capacity cost allocation that I have chosen to call the proportional responsibility method.

To illustrate some of the more common methods

of capacity allocation, assume the customer group load curves and the system load curve shown in Figure I (page 26). Table 1 (page 27) describes the characteristics of each of these customer group loads, and Table 2 (page 27) shows the results of the capacity allocations under various commonly used methods.

Before analyzing the results shown in Table 2, I would like to state briefly the principal criteria of capacity costs. Capacity costs are those created as a result of providing capacity for the customer's maximum demand. In other words, costs associated with property and plant having a specific design or size because of the maximum quantity of power used are considered capacity costs. They are not in any manner related to load factor.

Analyzing the results contained in Table 2 reveals the fallacies of the various methods:

- I. *Peak Responsibility*—Allocates all capacity costs on the basis of the loads as they occur at the time of the system peak. This implies that no capacity is required to serve loads A, B, and C since they were not taking service at the time of the system peak. This is incorrect because even without loads D, E, F, and G, there would still be a need for 300 kilowatts of capacity for loads A, B, and C.

II. *Noncoincident Peak*—Allocates all capacity costs on the basis of the individual customer peaks irrespective of the time of occurrence. Table 2 shows that all loads receive an equal share of capacity costs. Referring to the total

system curve shown in Figure I, more capacity is needed to meet the six peak hours of 9 to 12 A.M. and 4 to 7 P.M. than any other hours of the day. Therefore, a larger portion of the demand costs should be assigned to the loads

Exhibit PMN-8 COS
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FIGURE I

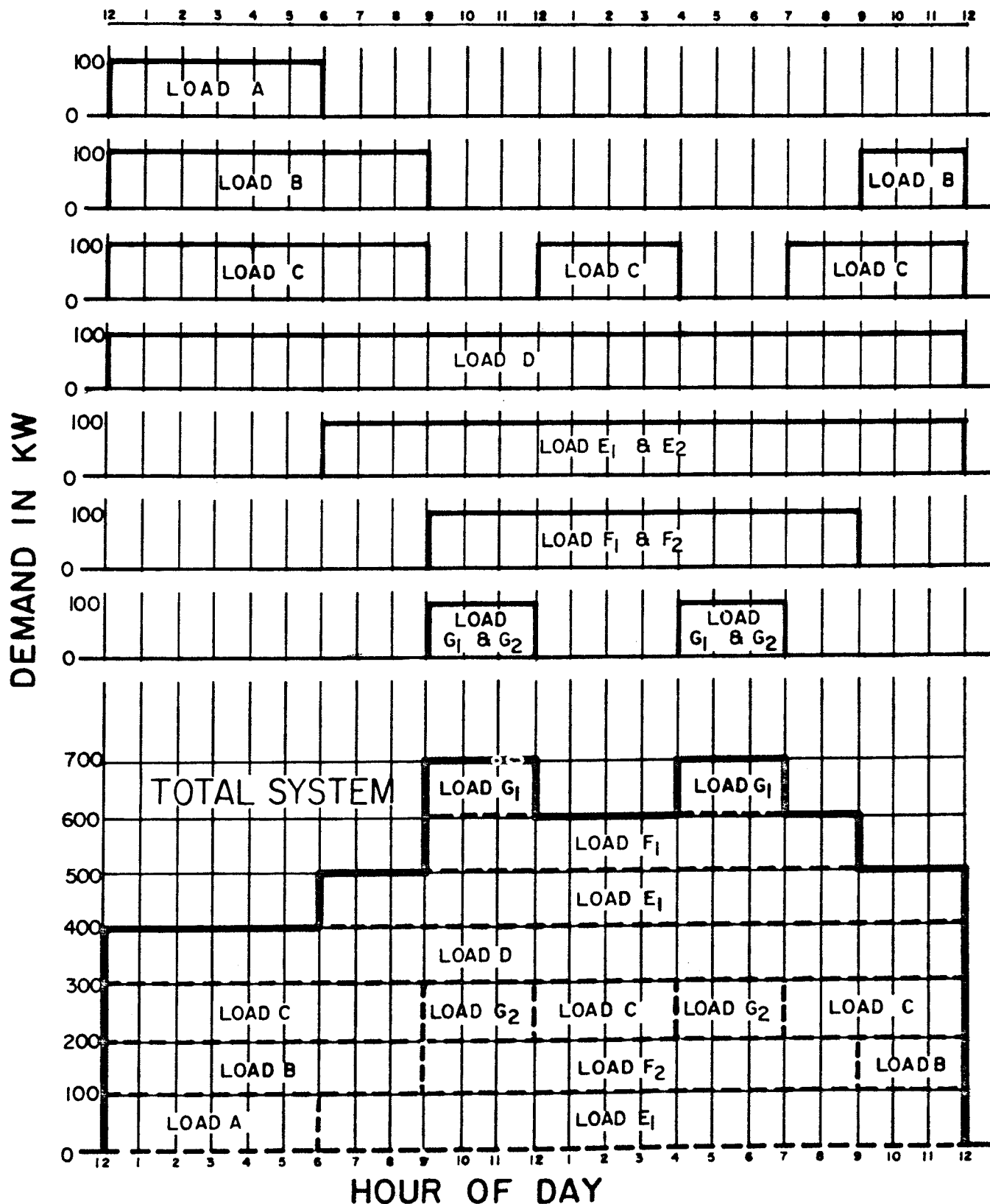


TABLE 1

Load	Kwh.	Diversified Peak Kw.	Coincident Peak Kw.	Load Factor	Load Characteristics
A	600	100	0	25%	Nothing on System Peak
B	1,200	100	0	50%	Nothing on System Peak
C	1,800	100	0	75%	Nothing on System Peak
D	2,400	100	100	100%	Entirely on System Peak
E ₁ & E ₂	1,800	100	100	75%	Entirely on System Peak
F ₁ & F ₂	1,200	100	100	50%	Entirely on System Peak
G ₁ & G ₂	600	100	100	25%	Entirely on System Peak

creating the system peak; this is not being done.

III. *Average and Excess*—The portion of facilities required to serve the average load is allocated on the basis of the average demands and the difference between the average loads and the maximum load, being the excess demand, is allocated on the basis of the noncoincident peak. The results are partially dependent on load factor, which, as stated earlier, has no bearing on demand costs.

IV. *Complete Peak*—Manner of capacity cost allocation differs from other methods by putting onus on classes that exceed average demand during periods when system peaks go above average system load. This method is also partially dependent on load factor.

To the best of my knowledge, all currently published methods have somewhat similar fallacies. Recognizing that these fallacies must be overcome, the following method was developed:

Figure II (page 28) shows the same system load curve as in Figure I; the left-hand scale indicates the demand and the bottom scale indicates the hours of the day. On the right-hand scale, percentages are added. Looking at the demand of 400 kilowatts presenting 57.14 per cent of the peak, it is observed that this demand exists for the entire 24-hour period. Since 400 kilowatts represent 57.14 per cent of the peak, it similarly accounts for 57.14 per cent of the capacity costs. Dividing these capacity costs of 57.14 per cent equally to each of these hours (57.14%/24 Hrs.) results in each hour being respon-

sible for 2.38 per cent of the capacity costs. The next break in the load curve (500 kilowatts) is responsible for 14.29 per cent (71.43% - 57.14%) of the capacity costs; this demand is used eighteen hours a day, 6 A.M. to 12 P.M. By similar calculation, each hour is responsible for .79 per cent (14.29%/18 Hrs.) of the capacity costs. Moving up to the 600-kilowatt break, each hour from 9 A.M. to 9 P.M. is responsible for 1.19 per cent of the capacity costs. Finally, at 700 kilowatts, each of the hours from 9 A.M. to 12 A.M. and 4 P.M. to 7 P.M. is responsible for 2.38 per cent of the capacity costs.

By combining these hourly percentages, the six hours from 12 P.M. to 6 A.M. are each responsible for 2.38 per cent, the six hours, 6 A.M. to 9 A.M. and 9 P.M. to 12 P.M. are each responsible for 3.17 per cent (2.38% + .79%), the six hours 12 A.M. to 4 P.M. and 7 P.M. to 9 P.M. for 4.36 per cent (2.38% + .79% + 1.19%) and the six hours 9 A.M. to 12 A.M. and 4 P.M. to 6 P.M. for 6.74 per cent (2.38% + .79% + 1.19% + 2.38%).

These hourly percentages, representing the distribution of the total capacity costs over the twenty-four hours of the day, establish a weighting system that will be used to distribute capacity costs to the various loads.

Figure III (page 28), showing the hourly weighting factors on the bottom scale, reveals that some loads have more than one weighting factor. For example, load D falls in all four weighting areas. It is appropriate that an individual load should be responsible for the maximum weighted demand. Applying this principle to Figure III, the weighted demands shown

TABLE 2

Load	Method I Peak Responsibility		Method II Noncoincident Peak		Method III Average & Excess		Method IV Complete Peak (Oram & Robison)	
	Kw.	%	Kw.	%	Kw.	%	Kw.	%
A	0		70	10	50	7	25	4
B	0		70	10	67	10	50	7
C	0		70	10	83	12	79	11
D	100	14	70	10	100	13	100	14
E ₁	100	14	70	10	83	12	89	13
E ₂	100	14	70	10	83	12	89	13
F ₁	100	14	70	10	67	10	78	11
F ₂	100	14	70	10	67	10	78	11
G ₁	100	15	70	10	50	7	56	8
G ₂	100	15	70	10	50	7	56	8
	<u>700</u>	<u>100</u>	<u>700</u>	<u>100</u>	<u>700</u>	<u>100</u>	<u>700</u>	<u>100</u>

FIGURE II

Exhibit PMN-9-COS
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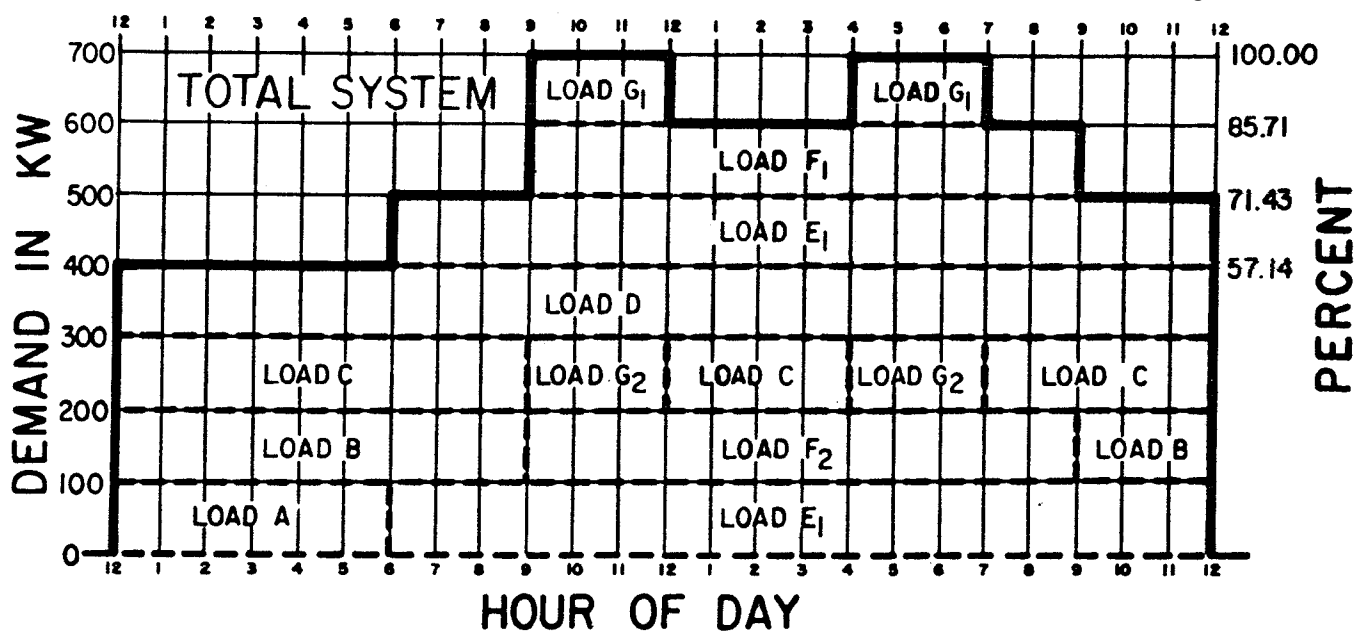


FIGURE III

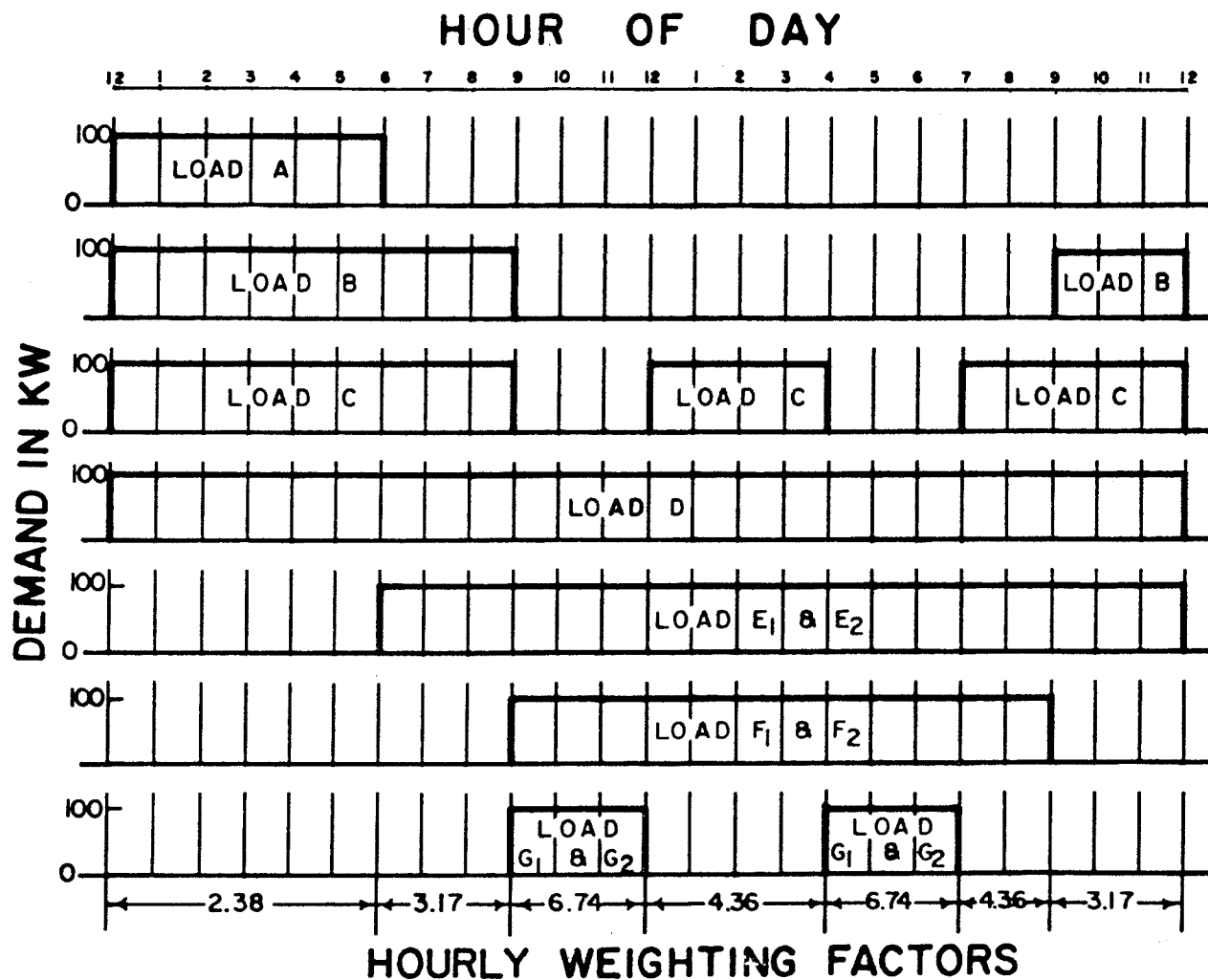


TABLE 3

<i>Load</i>	<i>Highest Hourly Weighting Factor</i>	<i>Weighted Demand</i>	<i>Percentage Distribution</i>	<i>Distribution of 700 Kw.</i>
A	2.38	238	4	28
B	3.17	317	5	38
C	4.36	436	7	53
D	6.74	674	12	83
E ₁	6.74	674	12	83
E ₂	6.74	674	12	83
F ₁	6.74	674	12	83
F ₂	6.74	674	12	83
G ₁	6.74	674	12	83
G ₂	6.74	674	12	83
		<u>5,709</u>	<u>100</u>	<u>700</u>

in Table 3 above were determined. In the next to the last column, the percentage distribution of the total weighted demand is shown. These percentages represent the proportional distribution of the capacity costs. Applying these percentages to the total system demand of 700 kilowatts gives the demand allocation shown in the last column.

The end result of this method is to assign all capacity costs to the individual loads proportional to what they individually would cost.

Table 4 (page 30) again shows the results of some of the more common methods of capacity allocation, as well as the proportional responsibility method. The inequities of the common methods described earlier are eliminated under the proportional responsibility method. Each and every load is assigned a proportionate share of the capacity costs. It is not dependent on load factors and it considers the time when the demand was established.

An additional major advantage of the proportional responsibility method is that it can be used to determine the costs associated with successively smaller components of the total load. A logical sequence of studies, each using the results of the earlier study in the listing, would be:

1. Cost of service by jurisdictional area.
2. Cost of service by class of service.
3. Cost of service by rate schedule.

4. Cost of service by homogeneous groups within the rate schedule (could be by annual consumption or connected appliances).

5. Cost of service by individual appliance or specific load.

None of the common methods described earlier in this article will give reasonable answers if applied to the above series of studies.

The actual application of the proportional responsibility method is more complex than described above as each hour of the year has a specific weighting factor, and complete day-by-day load curves are required both for the system and for the various customer groups. However, with modern computer technology, this is not an insurmountable problem.

If desired, the proportional responsibility method can be simplified by reducing the number of load curves resulting in fewer weighting factors. For example, instead of using the daily load curves, average monthly load curves or monthly peak-day load curves could be used. As might be expected, this simplification will alter the proportional allocation and limit the scope of application because it does not fully consider the daily, monthly, and seasonal shifts of the load curves of the system or the customer groups.

However, compared to the known fallacies of the results of commonly used methods, this altera-



Gary H. Grainger is electric rates and research supervisor for the Wisconsin Public Service Corporation. After receiving his BA degree in electrical engineering from the University of Wisconsin in 1960, he joined the utility and, in 1972, was appointed to his present position. Currently, a member of the Rate Research Committee of the Edison Electric Institute, he has testified in regulatory matters before the Federal Power Commission and the Wisconsin and Michigan Public Service commissions.

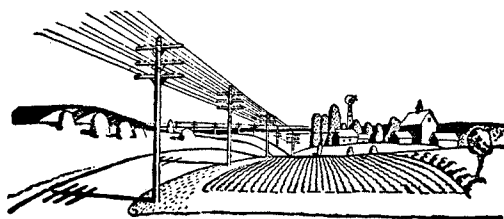
TABLE 4

Load	Method I Peak Responsibility		Method II Noncoincident Peak		Method III Average & Excess		Method IV Complete Peak (Oram & Robison)		Method V Prop. Resp. Method	
	Kw.	%	Kw.	%	Kw.	%	Kw.	%	Kw.	%
A	0		70	10	50	7	25	4	28	4
B	0		70	10	67	10	50	7	38	5
C	0		70	10	83	12	79	11	53	7
D	100	14	70	10	100	13	100	14	83	12
E ₁	100	14	70	10	83	12	89	13	83	12
E ₂	100	14	70	10	83	12	89	13	83	12
F ₁	100	14	70	10	67	10	78	11	83	12
F ₂	100	14	70	10	67	10	78	11	83	12
G ₁	100	15	70	10	50	7	56	8	83	12
G ₂	100	15	70	10	50	7	56	8	83	12
	<u>700</u>	<u>100</u>	<u>700</u>	<u>100</u>	<u>700</u>	<u>100</u>	<u>700</u>	<u>100</u>	<u>700</u>	<u>100</u>

tion of the proportional allocation and limitation of scope is minor.

Finally, I want to point out that the proportional responsibility method is designed to give a realistic and reasonable distribution of imbedded capacity costs. This makes it ideal for purposes of

rate design, determination of rate of return, and support in rate cases. It does not evaluate the incremental added costs of new loads or the long-range future costs of existing or added loads. These types of evaluations require separate special studies utilizing appropriate capacity allocation methods.



Outline of General Environmental Impact of Utility Operations

	Air Quality	Water Quality	Land Use	Noise
Electric	Stack emissions Nuclear radiation Transport and storage of nuclear materials	Thermal effect of coolant uses Secondary effect of fossil fuel used (coal-oil)	Lines and structures Dams and reservoirs Cooling towers Strip mining	Negligible
Natural gas	Negligible	Secondary effect from allied oil processing	Buildings and compressor stations	Compressors
Telephone	Negligible	Negligible	Lines and structures Radio towers	Relay stations
Rail & air carriers	Considerable emissions	Secondary effect of fossil fuels used or transported	Track and terminal structures	Considerable impact

SUMMARY OF THE PROPORTIONAL RESPONSIBILITY METHOD

The "Proportional Responsibility Method" is a capacity-related cost allocation method developed by Gary H. Grainger of Wisconsin Public Service Corporation. This method utilizes system load data (curve) to calculate a demand cost responsibility for each month, day or hour as the cost allocator to be used in the cost of service studies.

Exhibits 1 and 2 illustrate how this method works for the annual proportional responsibility. First, each monthly peak demand is calculated as a percentage of the annual system peak. This percentage is the demand cost responsibility. Second, the demand cost responsibility is spread over the month(s) it occurs. For example, the lowest demand cost responsibility is 83.65% (May, 1976) in Exhibit 1. This occurs in 12 months of the year and should be spread over the 12 months, i.e., 6.97083% per month. The second lowest responsibility is 84.08% (April, 1976). The difference between 84.08% and 83.65% (0.43%) occurs for 11 months of the year. Therefore, the second lowest demand month gets the cost responsibility of the lowest demand over 12 months (6.97083%) plus the responsibility of the second lowest demand spread over 11 months (0.03909%) as shown in Exhibit 2. This calculation continues until the highest demand month is done. Third, by adding the winter months' and summer months' responsibilities, two seasonal allocators are derived. The relationship between on-peak and off-peak periods within the month can also be quantified by using proportional responsibility method. This is shown in Exhibit 3.

The procedures of developing the allocators as described above are computerized and incorporated in Gilbert's Hourly Load Program in Fortran Language. Some sample print-outs labeled Exhibit 4 show the development of monthly proportional responsibility allocators on page 1 and diurnal allocators on pages 2 and 3.

Attached for reference is the article entitled "The Proportional Responsibility Method of Capacity Cost Allocation" by Gary H. Grainger from the November 9, 1972 issue of Public Utilities Fortnightly. This article introduced proportional responsibility method and also briefly discussed other capacity allocation methods.

EXHIBIT 1Exhibit PMN-9-COS
Page 58 of 63PROPORTIONAL RESPONSIBILITY

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Jan, 1972	711	688	666	659	655	762	794	809	742	662	683	730
Jan, 1976	844	821	799	792	788	895	927	942	875	795	816	854
% of Peak	89.60	87.16	84.82	84.08	83.65	95.01	98.41	100.0	92.89	84.40	86.62	90.66

Lowest

83.65% ÷ 12	-	6.97083
(84.08 - 83.65) ÷ 11	-	.03909
(84.40 - 84.08) ÷ 10	-	.03200
(84.82 - 84.40) ÷ 9	-	.04667
(86.62 - 84.82) ÷ 8	-	.22500
(87.16 - 86.62) ÷ 7	-	.07714
(89.60 - 87.16) ÷ 6	-	.40667
(90.66 - 89.60) ÷ 5	-	.21200
(92.89 - 90.66) ÷ 4	-	.55750
(95.01 - 92.89) ÷ 3	-	.70667
(98.41 - 95.01) ÷ 2	-	1.70000

Highest

(100.00 - 98.41) ÷ 1	-	1.59000
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Source: Peak-load Pricing Workshop paper by Wisconsin Public
Service Corporation.

ANNUAL PROPORTIONAL RESPONSIBILITY

	<u>%</u> <u>Distrib</u>
Jan = $6.971 + .039 + .032 + .047 + .225 + .077 + .407$	= 7.7974
Feb = $6.971 + .039 + .032 + .047 + .225 + .077$	= 7.3907
Mar = $6.971 + .039 + .032 + .047$	= 7.0886
Apr = $6.971 + .039$	= 7.0099
May = 6.971	= 6.9708
Jun = $6.971 + .039 + .032 + .047 + .225 + .077 + .407 + .212 + .558 + .707$	= 9.2736
Jul = $6.971 + .039 + .032 + .047 + .225 + .077 + .407 + .212 + .558 + .707 + 1.7$	= 10.9736
Aug = $6.971 + .039 + .032 + .047 + .225 + .077 + .407 + .212 + .558 + .707 + 1.7 + 1.59$	= 12.5636
Sep = $6.971 + .039 + .032 + .047 + .225 + .077 + .407 + .212 + .558$	= 8.5669
Oct = $6.971 + .039 + .032$	= 7.0419
Nov = $6.971 + .039 + .032 + .047 + .225$	= 7.3136
Dec = $6.971 + .039 + .032 + .047 + .225 + .077 + .407 + .212$	= <u>8.0094</u>
Total	<u><u>100.0000</u></u>

Source: Peak-load Pricing Workshop paper by Wisconsin Public Service Corporation.

MONTHLY PROPORTIONAL RESPONSIBILITYWINTER

Base Load	62.25%	428.55 Hrs.
Intermediate Load	87.70%	200.97 Hrs.
Peak Load	92.90%	100.48 Hrs.

730 Hrs. = 30.42 Days = 4.35 Weeks

67.008 ÷ 730.00	=	.09179%
27.395 ÷ 301.45	=	.09088%
5.597 ÷ 100.48	=	.05570%

Base Load	.09179%	1.00000	.38507
Intermediate Load	.18267%	1.99009	.76633
Peak Load	.23837%	2.59691	1.00000

SUMMER

Base Load	58.37%	406.38 Hrs.
Intermediate Load	83.35%	222.62 Hrs.
Peak Load	89.35%	101.000 Hrs.

65.072 ÷ 730.00	=	.08914
27.848 ÷ 323.62	=	.08605
7.079 ÷ 101.00	=	.07009

Base Load	.08914	1.00000	.36342
Intermediate Load	.17519	1.96534	.71424
Peak Load	.24528	2.75163	1.00000

Source: Peak-load Pricing Workshop paper by Wisconsin Public Service Corporation.

EXHIBIT 4

Page 1 of 3

DEVELOPMENT OF MONTHLY PROPORTIONAL RESPONSIBILITY ALLOCATOR

REFER TO PUBLIC UTILITIES
FORTNIGHTLY, NOV. 9, 1972
FOR A DETAILED DISCUSSION
OF THE PROCEDURE EMPLOYED

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
PEAK MW	869	862	795	769	800	915	934	1055	864	585	650	742
% OF PK	82.3697	81.7061	75.3554	72.8910	75.8294	86.7298	88.5308	100.0000	81.8957	55.4502	61.6114	70.3317
INVERSE RANK	9	7	5	4	6	10	11	12	8	1	2	3
SUCCESSIVE DIFFERENCE BY RANK	0.4739	5.0768	2.4645	2.5592	0.4739	4.3602	1.8009	11.4692	0.1896	55.4502	6.1611	8.7204
RANKS	4	6	8	9	7	3	2	1	5	12	11	10
INCREMENT ALLOCATION IN %	0.1185	0.9795	0.3081	0.2844	0.0677	1.4534	0.9005	11.4692	0.0379	4.6209	0.5601	0.8720
CUMULATIVE ALLOCATION IN %	7.8490	7.6926	6.6454	6.3374	6.7131	9.3024	10.2028	21.6720	7.7305	4.6209	5.1810	6.0530
ALLOCATION IN MW	82	81	70	66	70	98	107	228	81	48	54	63

EXHIBIT 4

Page 2 of 3

DEVELOPMENT OF HOURLY PROPORTIONAL RESPONSIBILITY ALLOCATOR
MORNING HOURS- PAGE 1 OF 2

REFER TO PUBLIC UTILITIES
FORTNIGHTLY, NOV 9, 1972
FOR A DETAILED DISCUSSION
OF THE PROCEDURE EMPLOYED

HOURLY ENDING	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 AM
PEAK MW	727	720	674	671	673	689	751	816	855	893	953	995
% OF PK	68.9099	68.2464	63.8862	63.6019	63.7915	65.3080	71.1848	77.3460	81.0426	84.6445	90.3317	94.3128
INVERSE RANK	6	5	3	1	2	4	7	8	10	12	13	16
SUCCESSIVE DIFFERENCE BY RANK	0.6635	2.9384	0.0948	63.6019	0.1896	1.4218	2.2749	6.1611	1.0427	0.5687	5.6872	0.6635
RANK	19	20	22	24	23	21	18	17	15	13	12	9
INCREMENT ALLOCATION IN %	0.0349	0.1469	0.0043	2.6501	0.0082	0.0677	0.1264	0.3624	0.0695	0.0437	0.4739	0.0737
CUMULATIVE ALLOCATION IN %	2.9122	2.8773	2.6626	2.6501	2.6583	2.7303	3.0386	3.4010	3.6364	3.8968	4.3707	4.7676
ALLOCATION IN MW	30	30	28	27	28	28	32	35	38	41	46	50

EXHIBIT 4

Page 3 of 3

DEVELOPMENT OF ANALYSIS OF 1979 DATA
HOURLY PROPORTIONAL RESPONSIBILITY ALLOCATOR
EVENING HOURS- PAGE 2 OF 2

REFER TO PUBLIC UTILITIES
FORTNIGHTLY, NOV. 9, 1972
FOR A DETAILED DISCUSSION
OF THE PROCEDURE EMPLOYED

HOURLY ENDING	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	MIDNIGHT
PEAK MW	1021	1045	1045	1037	1030	1055	1027	988	1003	963	887	844
% OF PK	96.7772	99.0521	99.0521	98.4938	97.6303	100.0000	97.3460	93.6493	95.0711	91.2796	84.0758	80.0000
INVERSE RANK	18	23	22	21	20	24	19	15	17	14	11	9
SUCCESSIVE DIFFERENCE BY RANK	1.7062	0.0	0.7583	0.6635	0.2844	0.9479	0.5687	2.3697	0.7583	0.9479	3.0332	2.6540
RANK	7	2	3	4	5	1	6	10	8	11	14	16
INCREMENT ALLOCATION IN %	0.2437	0.0	0.2528	0.1059	0.0569	0.9479	0.0948	0.2370	0.0948	0.0862	0.2167	0.1659
CUMULATIVE ALLOCATION IN %	5.1061	5.6764	5.6764	5.4236	5.2577	6.6243	5.2009	4.6938	4.8623	4.4569	3.8530	3.5868
ALLOCATION IN MW	53	59	59	57	55	69	54	49	51	47	40	37