

BEFORE THE  
NORTH CAROLINA UTILITIES COMMISSION

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In the Matter of )

Application of Piedmont Natural )  
Gas Company, Inc. for an )  
Adjustment of Rates, Charges, )  
and Tariffs Applicable to Service )  
in North Carolina, Continuation of )  
its IMR Mechanism, Adoption of )  
an EDIT Rider, and Other Relief )  
\_\_\_\_\_ )

Docket No. G-9, Sub 743

Direct Testimony and Exhibits of

**Nicholas Phillips, Jr.**

On behalf of

**CIGFUR IV**

July 19, 2019



**Application of Piedmont Natural Gas Company, Inc. for an Adjustment of Rates, Charges, and Tariffs Applicable to Service in North Carolina, Continuation of its IMR Mechanism, Adoption of an EDIT Rider, and Other Relief**

A I am a consultant in the field of public utility regulation and a managing principal of Brubaker & Associates, Inc., energy, economic and regulatory consultants. Our firm and its predecessor firms have been in this field since 1937 and have participated in more than 1,000 proceedings in 40 states and in various provinces in Canada. We have experience with more than 350 utilities, including many electric utilities, gas pipelines, and local distribution companies. I have testified in many electric and gas rate proceedings on virtually all aspects of ratemaking. More details are provided in Appendix A of this testimony.

**Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

A I am testifying on behalf of a group of intervenors designated as the Carolina Industrial Group for Fair Utility Rates IV ("CIGFUR"), a group of large industrial customers that purchase gas delivery and associated service from Piedmont Natural Gas Company, Inc. ("Piedmont" or "Company"). CIGFUR's members consist of customers served principally under Schedule 114 Large Interruptible Transportation Service and also under Schedule 113 Large General Transportation Service. Each CIGFUR member is a major employer in the county where it has a manufacturing plant, providing hundreds if not thousands of full-time jobs that are vital to the local economies in the Piedmont service area.

**Q HAVE YOU PRESENTED TESTIMONY IN PRIOR PROCEEDINGS BEFORE THE NORTH CAROLINA UTILITIES COMMISSION ("COMMISSION")?**

A Yes. I have been involved in many of prior proceedings before this Commission and have presented testimony in many of those proceedings. I have been involved with matters involving ratemaking issues in North Carolina for decades, including many cases involving Piedmont's parent Company, Duke Energy Corporation.

**Q WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY?**

A My testimony is directed toward Piedmont's natural gas cost of service study and the allocation of any allowed gas distribution rate increase to rate classes. I have examined the testimony and exhibits presented by Piedmont in this case with respect to cost of service, revenue allocation and rate design, and I will comment on the propriety of these proposals. I comment on Piedmont's Integrity Management Rider ("IMR") and the proposed charges associated with the IMR to Piedmont customers.

1 In addition, I comment on the excess deferred income tax ("EDIT") credit and the  
2 impact on Piedmont's requested increase. I also comment on Piedmont's proposed  
3 treatment of the Special Contract segment including the affiliate category within the  
4 Power Generation Contract class. Finally, I review Piedmont's requested rate of  
5 return on equity ("ROE").

6 **Q DOES YOUR TESTIMONY ADDRESS PIEDMONT'S NEED FOR AN OVERALL**  
7 **INCREASE IN GAS SERVICE RATES?**

8 A In order to make my presentation consistent with the revenue levels requested by  
9 Piedmont, I have, in many instances, used its proposed figures for rate base,  
10 operating income and rate of return. Use of these numbers should not be interpreted  
11 as an endorsement of them for purposes of determining the total dollar amount of  
12 rate increase to which Piedmont may be entitled. I focus my recommendations  
13 instead on the appropriate distribution to classes of any amount of rate increase  
14 allowed by the Commission.

15 **Summary of Conclusions and Recommendations**

16 **Q PLEASE BRIEFLY SUMMARIZE YOUR CONCLUSIONS AND**  
17 **RECOMMENDATIONS IN THIS PROCEEDING?**

18 A The summary of my position and recommendations is listed below:

- 19 1. Piedmont's gas rates should be based on the cost of providing service to each  
20 customer class. They are not.
- 21 2. Piedmont's gas cost of service study is a form of a peak and average method and  
22 allocates excessive cost to high load factor customers on a throughput weighted  
23 allocation as compared to a peak demand cost of service study.
- 24 3. Piedmont's cost of service study shows extreme variances in class rates of return.  
25 Interruptible service rates currently provide a rate of return of 30.58% and the rate

1 of return under Piedmont's proposed rates would increase to 43.74%. In contrast,  
2 Piedmont's request is to earn an allowed overall rate of return of 7.68%.

3 4. Piedmont's proposed equal percentage method of distributing the requested  
4 increase to non-contract classes ignores cost of service, is fundamentally flawed  
5 and should not be implemented as proposed.

6 5. The Interruptible service class is paying rates for in excess of cost of service, and  
7 rates should actually be reduced. Certainly no rate increase is warranted for the  
8 Interruptible service rate.

9 6. Approximately 25% of Piedmont's rate base (investment) is dedicated to serving  
10 the Special Contract classes which do not receive any rate increase under  
11 Piedmont's structure. The largest Special Contract class is Power Generation  
12 which is almost entirely comprised of Piedmont affiliates. The second largest  
13 class is Municipal Contracts which according to Piedmont's cost of service  
14 produces a negative rate of return. Any revenue loss due to these contracts  
15 should not be borne by Piedmont's other customers.

16 7. The Special Contract customers are also not included in the Infrastructure  
17 Management Recovery Rider ("IMR") mechanism. Again, the entire IMR should  
18 not be borne by all other customers.

19 8. Piedmont's request to earn 10.6% ROE is excessive compared to the national  
20 average of authorized returns which is approximately 9.55%. Since Piedmont has  
21 rider mechanisms in place, the national average ROE of 9.55% should be  
22 considered as an upper limit on the ROE approved in this proceeding.

23 9. The rate design for Rate 113 and Rate 114 collects fixed cost in the initial usage  
24 blocks and has declining rates to reflect that once fixed costs are recovered, the  
25 higher usage blocks only need to recover variable costs. To the extent the  
26 Commission approves a lower increase than the \$118 million requested by  
27 Piedmont, I recommend that the higher usage blocks be lowered even more to  
28 reflect only variable costs.

29 10. Piedmont's proposal to increase base rates by an equal percentage of revenue,  
30 credit excess deferred income taxes ("EDIT") by a net plant allocation and  
31 continue the IMR by a margin allocation all contribute to the significant rate  
32 inequities that currently exist. If the base rate increase is not modified to correct  
33 the overcharges, the EDIT credit and IMR should be modified to correct the  
34 inequities that currently exist.

35 11. Piedmont's parent company and affiliates have testified consistently before this  
36 and other commissions that rates should be within a 10 percent index band of the  
37 system average rate of return and that subsidies/excess rate levels should be  
38 decreased by 25% in distributing any allowed increase. Piedmont's existing rates  
39 deviate significantly from cost and many rate classes are hundreds of points  
40 outside the 10 percent band. It is recommended that Piedmont be ordered to  
41 follow the approach of Duke Energy, and move rates closer to cost in a  
42 meaningful manner.

**Cost of Service and Rate Design Principles**

**Q     COULD YOU PLEASE EXPLAIN THE RATEMAKING PROCESS AND THE DESIGN OF RATES?**

**A**     The ratemaking process has three steps. First, we must determine the utility's total revenue requirement and whether an increase or decrease in revenues is necessary. Second, we must determine how any alterations in the utility's costs and/or revenues should be distributed among the major customer classes. A determination of how many dollars of revenue should be produced by each class is essential for obtaining the appropriate level of rates. Finally, individual tariffs must be designed to produce the required amount of revenues for each class of service and to reflect the cost of serving customers within that class.

          The guiding principle at each step should be cost of service. In the first step – determining revenue requirements – it is universally agreed that the utility is entitled to an increase only to the extent that its actual cost of service has increased. If current rate levels exceed the utility's revenue requirement, a rate reduction is required. In short, overall rate revenues should equal actual cost of service. The same principle should apply in the next two steps. Each major customer class should produce revenues equal to the cost of serving that particular class, no more and no less. This may require a rate increase for some classes and a rate decrease for other classes. The standard tool for making this determination is a class cost of service study which shows the rates of return for each class of service. Rate levels should be modified so that each major class of service provides approximately the same rate of return. Finally, in designing individual tariffs, the goal should also be to relate the rate design of each class to the cost of service so that each customer's rate tracks, to the extent practicable, the utility's cost of providing service to that customer.

**Q WHY IS IT IMPORTANT TO ADHERE TO BASIC COST OF SERVICE PRINCIPLES  
IN THE RATEMAKING PROCESS?**

**A** The basic reasons for using cost of service as the primary factor in the ratemaking process are equity and stability.

**Q HOW IS THE EQUITY PRINCIPLE ACHIEVED BY BASING RATES ON COSTS?**

**A** When rates are based on cost, each customer (to the extent practicable) pays what it costs the utility to serve that customer, no more and no less. If rates are not based on cost of service, then some customers contribute disproportionately to the utility's revenues by subsidizing service provided to other customers. This is inherently inequitable.

**Q PLEASE DISCUSS THE STABILITY CONSIDERATION.**

**A** When rates are closely tied to costs, the earnings impact on the utility associated with changes in customer usage patterns will be minimized as a result of rates being designed in the first instance to track changes in the level of costs. Thus, cost-based rates provide an important enhancement to a utility's earnings stability, reducing its need to file for future rate increases.

From the perspective of the customer, cost-based rates provide a more reliable means of determining future levels of costs and also provide more accurate price signals. If rates are based on factors other than costs, it becomes much more difficult for customers to translate expected utility-wide cost changes (i.e., expected increases in overall revenue requirements) into changes in the rates charged to particular customer classes (and to customers within the class). Again, from the

customer's perspective, this situation reduces the attractiveness of expansion, as well as of continued operations, because of the lessened ability to plan.

**Q WHEN YOU SAY "COST," TO WHAT TYPE OF COST ARE YOU REFERRING?**

A I am referring to the utility's "embedded" or actual accounting costs of rendering service; that is, those costs which are used by the Commission in establishing the utility's overall revenue requirement.

**Q WOULD YOU PLEASE COMMENT ON THE BASIC PURPOSE OF A COST OF SERVICE STUDY?**

A After determining the overall cost of service or revenue requirement, a cost of service study is used to allocate the cost of service among customer classes. A cost of service study shows how each major customer class contributes to the total system cost. For example, when a class produces the same rate of return as the total system, it is returning to the utility revenues just sufficient to cover the costs incurred in serving it (including a reasonable return on investment). If a class produces a below-average rate of return, then the revenues are insufficient to cover all relevant costs. On the other hand, if a major class produces an above-average rate of return, it is paying revenues beyond sufficient to cover the cost attributable to it. In addition, it is subsidizing part of the cost attributable to other classes which produce a below-average rate of return. The class cost of service study is important because it demonstrates the various class revenue requirements, as well as the rates of return under current and proposed rates.



1    **Q       WOULD YOU PLEASE COMMENT ON THE PROPER FUNDAMENTALS OF A**  
2       **COST OF SERVICE STUDY?**

3    A       Yes. Cost of service is a basic and fundamental ingredient to proper ratemaking. In  
4           all class cost of service studies, certain fundamental concepts must be recognized.  
5           Of primary importance among these concepts is the functionalization, classification,  
6           and allocation of costs. Functionalization is the determination and arrangement of  
7           costs according to major functions, such as transmission, distribution and storage.  
8           Classification involves identifying the nature of these costs as to whether they vary  
9           with the quantity of gas consumed, the demand placed upon the system or the  
10          number of customers being served.

11               Fixed costs are those costs which tend to remain constant over the short run  
12               irrespective of changes in gas deliveries and are generally considered to be  
13               demand-related. Fixed costs include those costs which are a function of the size of  
14               the investment in utility facilities and those costs necessary to keep the facilities "on-  
15               line." Variable costs, on the other hand, are basically those costs which tend to vary  
16               with throughput and are generally considered to be commodity-related. Customer-  
17               related costs are those which are closely related to the number of customers served,  
18               rather than the quantity of gas consumed or the demands placed upon the system. A  
19               correct application of these concepts is essential to the proper development of a cost  
20               of service study, as well as appropriate rate design within the customer class.

21               With respect to allocation, fixed cost should be allocated on a peak demand  
22               factor, variable cost should be allocated on a throughput factor and customer related  
23               cost should be allocated on a per customer allocation factor.

**Piedmont's Gas Cost of Service Study**

**Q HAVE YOU REVIEWED THE GAS COST OF SERVICE STUDIES PERFORMED BY  
PIEDMONT IN THIS PROCEEDING?**

A Yes. Piedmont witness Daniel P. Yardley submitted a 2018 cost of service studies based on per book results, present rate adjusted results and under Piedmont's proposed rates. I will focus on the present rates adjusted or test year study.

**Q DO YOU AGREE WITH THE ALLOCATION METHODS UTILIZED BY PIEDMONT  
IN ITS TEST YEAR 2018 GAS COST OF SERVICE STUDY?**

A With the exception of the peak and average allocation method which Piedmont admits allocates more cost to high load factor customers, I basically agree with the Piedmont cost of service study. The 50% throughput weighting in the peak and average allocator is arbitrary and inconsistent with system design. The peak day demand method is more reflective of cost causation and with system design.

**Q IS THE ALLOCATION OF FIXED DELIVERY COSTS BASED ON DESIGN DAY  
DEMAND DISCUSSED IN THE NATIONAL ASSOCIATION OF REGULATORY  
COMMISSIONERS ("NARUC") MANUAL?**

A Yes. NARUC recognizes that distribution mains should be allocated to customer classes based on: (1) design peak day demands for the demand component; and (2) the number of customers for the customer component. In that regard, the NARUC

Gas Distribution Rate Design Manual states the following:

Demand or capacity costs vary with the size of plant and equipment. They are related to maximum system requirements which the system is designed to serve during short intervals and do not directly vary with the number of customers **or their annual usage**. Included in these costs are: the capital costs associated with production, transmission and storage plant and their related expenses; the demand cost of gas;

1 and most of the capital costs and expenses associated with that part of  
2 the distribution plant not allocated to customer costs, such as the costs  
3 associated with distribution mains in excess of the minimum size.  
4 (NARUC Manual, Gas Distribution Rate Design, June 1989, pp. 23-24;  
5 emphasis added)

6 **Q ARE YOU AWARE OF ANY OTHER AUTHORITATIVE AGENCY'S POSITION ON**  
7 **THE CLASSIFICATION AND ALLOCATION OF GAS DISTRIBUTION MAIN**  
8 **COSTS?**

9 A Yes. In Order 636, the Federal Energy Regulatory Commission ("FERC") endorsed  
10 the straight fixed-cost variable ("SFV") cost methodology, which allocates fixed  
11 pipeline cost 100% on a demand basis. In this regard, FERC states:

12 The Commission believes that requiring SFV comports with and  
13 promotes Congress' goal of a national gas market as discussed above  
14 and goes hand-in-hand with the equity principle.

15 \*\*\*\*\*

16 Moreover, the Commission's adoption of SFV should maximize  
17 pipeline throughput over time by allowing gas to compete with  
18 alternative fuels on a timely basis as the prices of alternate fuels  
19 change. The Commission believes it is beyond doubt that it is in the  
20 national interest to promote the use of clean and abundant natural gas  
21 over alternate fuels such as foreign oil. SFV is the best method for  
22 doing that. (FERC Order 636, Final Rate Issued April 8, 1992, pp.  
23 127-129 (footnote omitted))

24 The FERC SFV allocation method appropriately treats fixed pipeline costs as  
25 demand-related costs. Similarly, transmission and distribution main costs not  
26 classified as customer-related on Piedmont's system should be treated as demand-  
27 related costs to achieve the goals and benefits outlined by FERC and in accordance  
28 with NARUC guidance.

1    **Q     HAS PIEDMONT PERFORMED A STUDY USING THE PEAK DEMAND TO**  
2    **ALLOCATE FIXED COSTS TO CLASSES?**

3    A     Yes.  Piedmont performed a peak demand study in response to discovery from  
4         CIGFUR.  In that study, peak demand data is used to allocate fixed demand-related  
5         delivery costs in place of the peak and average method.

6             While the peak demand study is a more correct representation of the cost of  
7         service associated with the various customer classes, I will use the Piedmont cost of  
8         service study to limit the issues of concern in this proceeding.  The main issue is the  
9         amount of subsidy levels that currently exist in Piedmont's rates and how to correct  
10        the subsidies without harsh impacts to subsidized classes.  The peak demand study  
11        will only show that certain subsidies are larger and make any corrective distribution of  
12        the requested increase even more difficult to manage in this case.  The results of the  
13        peak demand study are shown on Exhibit NP-2.

14   **Q     HAS DUKE ENERGY PROGRESS LLC OFFERED TESTIMONY ON THIS**  
15   **SUBJECT BEFORE THE COMMISSION?**

16   A     Yes.  Laura A. Bateman recently presented testimony on behalf of Duke Energy  
17         Progress, LLC which stated:

18             **"Q. HOW DO YOU PROPOSE TO ALLOCATE THIS ADDITIONAL**  
19             **REVENUE REQUIREMENT AMONG THE CLASSES?"**

20             A. Bateman Exhibit 2 shows how the additional revenue requirement is  
21             spread among the classes and how the target revenue requirements  
22             for rate design are established.  The rate increase shown in the exhibit  
23             has been allocated to the rate classes on the basis of rate base, and  
24             then combined with an additional increase or decrease at the customer  
25             class level that results in a 25 percent reduction in each class's  
26             variance from the overall average rate of return.  This additional  
27             increase or decrease at the customer class level nets to \$0 for the  
28             North Carolina retail jurisdiction in total, but brings the customer  
29             classes closer to the average rate of return, and is an appropriate way  
30             to gradually bring rate classes closer to rate parity over time.  This

1 approach is consistent with the approaches in the last general rate  
2 proceedings for both DE Carolinas and DE Progress.” (Docket No. E-  
3 2, Sub 1142, Bateman Direct, page 10, lines 4-17)

4 **Q HAS DUKE ENERGY CAROLINAS, LLC PRESENTED A CONSISTENT POSITION**  
5 **REGARDING RATE PARITY AMONG THE VARIOUS RATE CLASSES?**

6 A Yes. Mr. Michael J. Pirro presented testimony on behalf of Duke Energy Carolinas  
7 LLC which stated:

8 “This historical subsidy has, in the past, been beyond the range of  
9 reasonableness, which we define as class rates of return within 10  
10 percent of the total Company rate of return. The updated comparison  
11 through the test period year now shows significant convergence of the  
12 class rate of return over all classes towards the band of  
13 reasonableness demonstrating the success of the strategy of gradually  
14 reducing the subsidy/excess by 25 percent. Continuation of this trend  
15 would be encouraging and desirable.

16 The Company remains committed to monitoring subsidy / excess  
17 levels and making improvements to ensure its rates are fair across the  
18 classes of customers served.” (Docket No. E-7, Sub 1146, Pirro  
19 Direct, page 21, lines 12-22)

20 **Q HAVE YOU EXAMINED THE CLASS RATES OF RETURN, INDEXES AND**  
21 **SUBSIDIES PRESENTED BY PIEDMONT?**

22 A Yes. Exhibit NP-1 shows the results of Piedmont’s peak and average cost of service,  
23 indexes and subsidies at both current rates and rates proposed by Piedmont.

24 **Q WHAT DO YOU CONCLUDE?**

25 A Piedmont’s rates are not adequately based on cost of service, and Piedmont’s  
26 proposed equal percentage increase to non-contract classes does not make a  
27 meaningful movement toward cost of service for most classes.

**Q WHY ARE CONTRACT CLASSES NOT INCLUDED IN PIEDMONT'S REVENUE DISTRIBUTION?**

A Piedmont has apparently entered into contracts that do not provide for increases in rate levels to the contract classes. This is problematic because Piedmont proposes to collect the entire claimed increase in system revenue requirement from all non-contract customer classes by basically increasing all rates for non-contract customers by approximately 14.5%. The contract classes represent approximately 25% of Piedmont's rate base, or investment, and the return associated with this investment requested by Piedmont in this proceeding would be borne by all other customers, based on the rates and class increases proposed by Piedmont.

**Q IS THIS APPROACH REASONABLE?**

A No. If Piedmont will not or cannot raise the rates to earn its requested return on 25% of its investment, the Commission should not allow Piedmont to increase the rates of other customers to make up the shortfall. Additionally, the Commission should be aware that the largest Special Contract class, Power Generation, involves contracts with affiliates of Piedmont making the Company's proposal even more problematic and self-serving.

**Q WHAT OTHER CONTRACT CLASSES WOULD RECEIVE NO INCREASE UNDER PIEDMONT'S PROPOSAL?**

A The Municipal Contract class is the second largest Special Contract class and shown to produce a negative rate of return. If Piedmont choses to earn a negative return on this class, other ratepayers should not make up the difference. The smallest Special Contract class, Special Contracts, does provide an above average return and under

cost based ratemaking should not be increased by the system average amount, but the same is true of certain other non-contract classes, such as the Interruptible service class.

**Q WHAT RATE OF RETURN IS PRODUCED BY THE INTERRUPTIBLE SERVICE CLASS?**

A The Interruptible service class is shown to provide Piedmont a rate of return of 30.58% under current rates and that excessive return would increase to 43.74% under rates proposed by Piedmont. This is in contrast to Piedmont's request to earn a return of 7.68% on its entire rate base in this proceeding. The Commission should not approve any increase to a class that currently produces a rate of return of 30.58%.

**Distribution of Increase**

**Q HAVE YOU REVIEWED PIEDMONT'S PROPOSED DISTRIBUTION OF ITS REQUESTED BASE RATE INCREASE?**

A Yes. Piedmont's proposed distribution of its base rate increase is shown on Exhibit NP-3. Piedmont's proposed distribution increases base rates to all non-contract classes by 14.5% and proposed no increase in rates to Special Contract classes. Piedmont's proposal is not cost based, fair or reasonable and should be rejected.

If Piedmont refuses to or has agreed not to increase rates to contract classes that do not provide the requested rate of return, the solution should involve shareholders, not subsidies from all other ratepayers.

1    **Q     HAVE YOU PERFORMED A DISTRIBUTION SIMILAR TO PIEDMONT'S, BUT**  
2           **WITH NO INCREASE TO INTERRUPTIBLE SERVICE AND PARTICIPATION BY**  
3           **THE SPECIAL CONTRACT CLASS?**

4    **A     Yes. Piedmont's equal percentage approach modified to include Special Contract**  
5           customers and eliminate the increase to Interruptible service due to the excessive  
6           return provided to Piedmont by that class is shown on Exhibit NP-4.

7    **Q     THE APPROACH BY DUKE ENERGY AND DUKE PROGRESS YOU**  
8           **REFERENCED PREVIOUSLY INDICATED A RATE BASE ALLOCATION OF THE**  
9           **INCREASE. DID YOU PERFORM A DISTRIBUTION TO CLASSES ON THAT**  
10          **BASIS?**

11   **A     Yes. An allocation of Piedmont's requested increase using rate base from the**  
12          Company's cost of service study with no increase to Interruptible service is shown on  
13          Exhibit NP-5. This distribution of the \$118 million requested increase basically keeps  
14          subsidy/excess that exist in rates at their current levels, without correction. Of  
15          particular concern is that the combined Special Contract classes require a  
16          \$30.4 million or almost 30% rate increase just to keep the subsidy it receives from  
17          getting larger. Reducing subsidies by 25% as recommended by Duke witnesses in  
18          other proceedings is problematic due to the extremely large imbalances that currently  
19          exist in Piedmont's rates. One solution is to use the difference between Piedmont's  
20          requested increase and the ultimate amount authorized to reduce subsidy/excess  
21          levels by lowering the proposed increases to those classes providing above system  
22          average returns.



**Q PLEASE COMMENT ON THE EDIT AS PROPOSED BY PIEDMONT.**

A Piedmont proposes an approximate \$36 million credit mechanism for excess deferred income taxes. The credit mechanism is an offset to the base rate increase but is not done on an equal percentage basis, similar to the proposed base rate increase, but on a net plant allocation to non-contract customer classes. While Piedmont's method has merit in isolation, it is inconsistent with the proposed increase and does not adequately move rates toward cost. The Commission should return EDIT to ratepayers in a manner that makes the overall net increase as cost based as possible.

**Q HOW DOES PIEDMONT ALLOCATE THE IMR TO CLASSES?**

A Piedmont allocates the IMR to classes on the basis of margin, but excludes the Special Contract customers. This allocation would cause all non-contract customers to bear the brunt of total system improvements covered by the IMR and exclude customers that are responsible for 25% of Piedmont's rate base investment. This allocation over time will exacerbate the subsidy/excess issue by forcing only non-contract customers to fund system improvements, which are significant. Customers paying margins in excess of cost are overcharged by this approach, in addition to paying for the shortfall of excluding the Special Contract classes.

**Q HAVE YOU REVIEWED PIEDMONT'S PROPOSED RATE DESIGN FOR RATE 113 AND RATE 114?**

A Yes. Piedmont's proposed rate design is shown on Exhibit NP-6. Piedmont is basically using the initial blocks for fixed cost recovery and the higher usage blocks are lowered in recognition of the initial fixed cost recovery. This rate design approach

1 is reasonable. However, the significant subsidy (overpayment) by Interruptible  
2 Transportation would continue unless addressed in the distribution of the increase to  
3 classes, previously discussed.

4 **Return on Equity**

5 **Q IS PIEDMONT'S PROPOSED 10.60% ROE REQUEST APPROPRIATE?**

6 A No. Piedmont's requested ROE of 10.60% is excessive and should be rejected. The  
7 Company's current authorized ROE is 10.0%, which was authorized by approving a  
8 stipulation in the Commission's Final Order in Docket No. G-9, Sub 631, issued on  
9 December 17, 2013.

10 Every quarter, Regulatory Research Associates, an affiliate of SNL Financial,  
11 updates its *Major Rate Case Decisions* report that covers electric and natural gas  
12 utility rate case outcomes. Specifically, this report tracks the authorized ROEs  
13 resulting from utility rate cases. The most recent report has been updated through  
14 March 31, 2019 and shows that the national average authorized ROE for gas utilities  
15 in the first quarter of 2019 was 9.55%. This is 45 basis points below Piedmont's  
16 currently authorized ROE. The Commission also should consider the IMR, and any  
17 other mechanisms, which provide Piedmont with additional cost recovery outside of a  
18 base rate case in setting a reasonable ROE.

19 On that basis, the Company's current ROE, and definitely its requested ROE,  
20 are significantly above a reasonable cost of equity. I recommend that the  
21 Commission authorize a ROE that does not exceed the national average of 9.55%.

22 **Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

23 A Yes, it does.

**Qualifications of Nicholas Phillips, Jr.**

1    **Q     PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2    A     Nicholas Phillips, Jr. My business address is 16690 Swingley Ridge Road, Suite 140,  
3           Chesterfield, MO 63017.

4    **Q     PLEASE STATE YOUR OCCUPATION.**

5    A     I am a consultant in the field of public utility regulation and a Managing Principal with  
6           the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory  
7           consultants.

8    **Q     PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL**  
9           **EMPLOYMENT EXPERIENCE.**

10   A     I graduated from Lawrence Institute of Technology in 1968 with a Bachelor of Science  
11           Degree in Electrical Engineering. I received a Master's of Business Administration  
12           Degree from Wayne State University in 1972. Since that time I have taken many  
13           Masters and Ph.D. level courses in the field of Economics at Wayne State University  
14           and the University of Missouri.

15           I was employed by The Detroit Edison Company in June of 1968 in its  
16           Professional Development Program. My initial assignments were in the engineering  
17           and operations divisions where my responsibilities included the overhead and  
18           underground design, construction, operation and specifications for transmission and  
19           distribution equipment; budgeting and cost control for operations and capital  
20           expenditures; equipment performance under field and laboratory conditions; and

1 emergency service restoration. I also worked in various districts, planning system  
2 expansion and construction based on increased and changing loads.

3 Since 1973, I have been engaged in the preparation of studies involving  
4 revenue requirements based on the cost to serve electric, steam, water and other  
5 portions of utility operations.

6 Other responsibilities have included power plant studies; profitability of various  
7 segments of utility operations; administration and recovery of fuel and purchased  
8 power costs; sale of utility plant; rate investigations; depreciation accrual rates;  
9 economic investigations; the determination of rate base, operating income, rate of  
10 return; contract analysis; rate design and revenue requirements in general.

11 I held various positions at Detroit Edison, including Supervisor of Cost of  
12 Service, Supervisor of Economic studies and Depreciation, Assistant Director of Load  
13 Research, and was designated as Manager of various rate cases before the Michigan  
14 Public Service Commission and the Federal Energy Regulatory Commission. I was  
15 acting as Director of Revenue Requirements when I left Detroit Edison to accept a  
16 position at Drazen-Brubaker & Associates, Inc., in May of 1979.

17 The firm of Drazen-Brubaker & Associates, Inc. was incorporated in 1972 and  
18 has assumed the utility rate and economic consulting activities of Drazen Associates,  
19 Inc., active since 1937. In April 1995, the firm of Brubaker & Associates, Inc. was  
20 formed. It includes most of the former DBA principals and staff.

21 Our firm has prepared many studies involving original cost and annual  
22 depreciation accrual rates relating to electric, steam, gas and water properties, as  
23 well as cost of service studies in connection with rate cases and negotiation of  
24 contracts for substantial quantities of gas and electricity for industrial use. In these  
25 cases, it was necessary to analyze property records, depreciation accrual rates and

1 reserves, rate base determinations, operating revenues, operating expenses, cost of  
2 capital and all other elements relating to cost of service.

3 In general, we are engaged in valuation and depreciation studies, rate work,  
4 feasibility, economic and cost of service studies and the design of rates for utility  
5 services. In addition to our main office in St. Louis, the firm also has branch offices in  
6 Phoenix, Arizona and Corpus Christi, Texas.

7 **Q WHAT ADDITIONAL EDUCATIONAL, PROFESSIONAL EXPERIENCE AND**  
8 **AFFILIATIONS HAVE YOU HAD?**

9 A I have completed various courses and attended many seminars concerned with rate  
10 design, load research, capital recovery, depreciation, and financial evaluation. I have  
11 served as an instructor of mathematics of finance at the Detroit College of Business  
12 located in Dearborn, Michigan. I have also lectured on rate and revenue requirement  
13 topics.

14 **Q HAVE YOU PREVIOUSLY APPEARED BEFORE A REGULATORY COMMISSION?**

15 A Yes. I have appeared before the public utility regulatory commissions of Arkansas,  
16 Delaware, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Missouri,  
17 Montana, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South  
18 Carolina, South Dakota, Virginia, West Virginia, and Wisconsin, the Lansing Board of  
19 Water and Light, the District of Columbia, and the Council of the City of New Orleans  
20 in numerous proceedings concerning cost of service, rate base, unit costs, pro forma  
21 operating income, appropriate class rates of return, adjustments to the income  
22 statement, revenue requirements, rate design, integrated resource planning, power  
23 plant operations, fuel cost recovery, regulatory issues, rate-making issues,

- 1 environmental compliance, avoided costs, cogeneration, cost recovery, economic
- 2 dispatch, rate of return, demand-side management, regulatory accounting and
- 3 various other items.

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**Piedmont Natural Gas Company, Inc.**  
**Docket No. G-9, Sub 743**

**Class Cost of Service Study Results**  
**at Present as Adjusted and Proposed Rates**  
**using Peak & Average**  
**Test Year Ended December 31, 2018**

Line	Customer Class	Rate	Present Rates as Adjusted			Proposed Rates		
			Rate of	Relative	Subsidy	Rate of	Relative	Subsidy
			Return	Rate of	(000)	Return	Rate of	(000)
			(1)	(2)	(3)	(4)	(5)	(6)
1	Residential	101	3.97%	80	\$ (19,758)	7.70%	100	\$ 306
2	Small General Service	102	7.88%	159	\$ 23,256	12.43%	162	\$ 37,869
3	Medium General Service	152	19.11%	386	\$ 11,160	26.58%	346	\$ 14,903
	Large General Service							
4	Sales	103	9.40%	190	\$ 1,236	12.93%	168	\$ 1,461
5	Transportation	113	0.67%	13	\$ (11,025)	2.38%	31	\$ (13,612)
6	Total Large General Service		1.52%	31	\$ (9,790)	3.42%	44	\$ (12,152)
	Interruptible							
7	Sales	104	102.26%	2063	\$ 1,119	132.33%	1723	\$ 1,433
8	Transportation	114	28.27%	570	\$ 8,299	40.88%	532	\$ 11,818
9	Total Interruptible		30.58%	617	\$ 9,417	43.74%	569	\$ 13,251
10	Military Transportation	T-10	1.28%	26	\$ (863)	2.30%	30	\$ (1,263)
	Special Contracts							
11	Special Contracts		15.24%	307	\$ 4,010	14.35%	187	\$ 2,601
12	Municipal Contracts		-1.49%	-30	\$ (8,489)	-2.33%	-30	\$ (13,176)
13	Power Generation Contracts		4.00%	81	\$ (8,944)	3.16%	41	\$ (42,338)
14	Total Special Contracts		3.74%	76	\$ (13,422)	2.90%	38	\$ (52,913)
15	Total		4.96%	100	\$ -	7.68%	100	\$ -

Source: CIGFUR 1-3a\_Cost Allocation Study

**Piedmont Natural Gas Company, Inc.**  
**Docket No. G-9, Sub 743**

**Class Cost of Service Study Results**  
**at Present as Adjusted and Proposed Rates**  
**using Peak Demand**  
**Test Year Ended December 31, 2018**

Line	Customer Class	Rate	Present Rates as Adjusted			Proposed Rates		
			Rate of Return (1)	Relative Rate of Return (2)	Subsidy (000) (3)	Rate of Return (4)	Relative Rate of Return (5)	Subsidy (000) (6)
1	Residential	101	3.63%	73	\$ (27,314)	7.26%	94	\$ (8,717)
2	Small General Service	102	7.54%	152	\$ 20,915	12.01%	156	\$ 35,073
3	Medium General Service	152	19.37%	391	\$ 11,272	26.90%	350	\$ 15,036
	Large General Service							
4	Sales	103	10.45%	211	\$ 1,461	14.18%	185	\$ 1,729
5	Transportation	113	1.67%	34	\$ (7,894)	3.56%	46	\$ (9,873)
6	Total Large General Service		2.54%	51	\$ (6,433)	4.62%	60	\$ (8,143)
	Interruptible							
7	Sales	104	835.59%	16855	\$ 1,299	1061.70%	13821	\$ 1,649
8	Transportation	114	531.79%	10727	\$ 14,281	707.17%	9206	\$ 18,962
9	Total Interruptible		548.36%	11061	\$ 15,580	726.51%	9458	\$ 20,610
10	Military Transportation	T-10	1.10%	22	\$ (918)	2.09%	27	\$ (1,329)
	Special Contracts							
11	Special Contracts		18.18%	367	\$ 4,676	17.29%	225	\$ 3,396
12	Municipal Contracts		-1.66%	-33	\$ (8,835)	-2.49%	-32	\$ (13,589)
13	Power Generation Contracts		4.00%	81	\$ (8,944)	3.16%	41	\$ (42,338)
14	Total Special Contracts		3.77%	76	\$ (13,102)	2.93%	38	\$ (52,531)
15	Total		4.96%	100	\$ 0	7.68%	100	\$ 0

Source: CIGFUR 1-3a\_Cost Allocation Study



**Piedmont Natural Gas Company, Inc.**  
**Docket No. G-9, Sub 743**

**Allocation of Proposed Revenue**  
**Test Year Ended December 31, 2018**  
**(Dollars in Thousands)**

Line	Customer Class	Rate	Current Total Revenue (1)	Proposed Base Revenue Increase (2)	Proposed Total Revenue (3)	% Increase (4)
1	Residential	101	\$ 478,791	\$ 69,577	\$ 548,368	14.5%
2	Small General Service	102	\$ 227,581	\$ 33,072	\$ 260,653	14.5%
3	Medium General Service	152	\$ 34,765	\$ 5,052	\$ 39,817	14.5%
4	Natural Gas Vehicle Service	142	\$ 898	\$ 131	\$ 1,029	14.5%
5	Military Transportation Service	T-10	\$ 2,290	\$ 333	\$ 2,623	14.5%
6	Outdoor Gas Light Service	105	\$ 86	\$ 13	\$ 99	14.5%
7	Large General Service	103/113	\$ 41,041	\$ 5,964	\$ 47,005	14.5%
8	Interruptible Service	104/114	\$ 27,364	\$ 3,976	\$ 31,340	14.5%
9	Subtotal		\$ 812,816	\$ 118,117	\$ 930,933	14.5%
10	Special Contracts		\$ 102,386	\$ -	\$ 102,386	0.0%
11	Total		\$ 915,202	\$ 118,117	\$ 1,033,319	12.9%

Source: Exhibit DPY-4, page 1 of 1 and Exhibit DPY-5, page 8 of 8.

**Piedmont Natural Gas Company, Inc.**  
**Docket No. G-9, Sub 743**

**Allocation of Proposed Revenue  
Including Special Contracts and  
No Increase for Interruptible Service  
using Piedmont Method  
Test Year Ended December 31, 2018  
(Dollars in Thousands)**

Line	Customer Class	Rate	Current Total Revenue (1)	Proposed Base Revenue Increase (2)	Proposed Total Revenue (3)	% Increase (4)
1	Residential	101	\$ 478,791	\$ 63,698	\$ 542,489	13.3%
2	Small General Service	102	\$ 227,581	\$ 30,277	\$ 257,858	13.3%
3	Medium General Service	152	\$ 34,765	\$ 4,625	\$ 39,390	13.3%
4	Natural Gas Vehicle Service	142	\$ 898	\$ 119	\$ 1,017	13.3%
5	Military Transportation Service	T-10	\$ 2,290	\$ 305	\$ 2,595	13.3%
6	Outdoor Gas Light Service	105	\$ 86	\$ 11	\$ 97	13.3%
7	Large General Service	103/113	\$ 41,041	\$ 5,460	\$ 46,501	13.3%
8	Interruptible Service	104/114	\$ 27,364	\$ -	\$ 27,364	0.0%
9	Special Contracts		\$ 102,386	\$ 13,621	\$ 116,007	13.3%
10	Total		\$ 915,202	\$ 118,117	\$ 1,033,319	12.9%

**Piedmont Natural Gas Company, Inc.**  
**Docket No. G-9, Sub 743**

**Allocation of Proposed Revenue  
Including Special Contracts and  
No Increase for Interruptible Service  
using Rate Base Allocation  
Test Year Ended December 31, 2018  
(Dollars in Thousands)**

Line	Customer Class	Rate	Current Total Revenue (1)	Proposed Base Revenue Increase (2)	Proposed Total Revenue (3)	% Increase (4)
1	Residential	101	\$ 478,791	\$ 55,192	\$ 533,983	11.5%
2	Small General Service	102	\$ 227,581	\$ 21,899	\$ 249,480	9.6%
3	Medium General Service	152	\$ 34,765	\$ 2,166	\$ 36,931	6.2%
4	Natural Gas Vehicle Service*	142	\$ 898	\$ -	\$ 898	0.0%
5	Military Transportation Service	T-10	\$ 2,290	\$ 645	\$ 2,935	28.1%
6	Outdoor Gas Light Service*	105	\$ 86	\$ -	\$ 86	0.0%
7	Large General Service	103/113	\$ 41,041	\$ 7,825	\$ 48,866	19.1%
8	Interruptible Service	104/114	\$ 27,364	\$ -	\$ 27,364	0.0%
9	Special Contracts		\$ 102,386	\$ 30,390	\$ 132,776	29.7%
10	Total		\$ 915,202	\$ 118,117	\$ 1,033,319	12.9%

\* Class not included in cost of service study.

**Piedmont Natural Gas Inc.**  
**Docket No. G-9, SUB 743**

**Revenues at Present and Proposed Rates**

Description	Quantity (1)	Present Rates (2)	Present Charge (3)	Proposed Rates (4)	Proposed Charge (5)	Increase Amount (6)	Percent (7)
113 - Large General Transportation Service							
Monthly Charge	3,628	\$ 350.00	\$ 1,269,800	\$ 350.00	\$ 1,269,800	\$ -	0.0%
Demand Charge per DT	1,651,088	\$ 2.75	\$ 4,540,492	\$ 3.25	\$ 5,366,036	\$ 825,544	18.2%
Winter - First 1,500 per DT	2,014,321	\$ 1.7034	\$ 3,431,194	\$ 2.2331	\$ 4,498,180	\$ 1,066,986	31.1%
Winter - Next 3,000 per DT	2,836,557	\$ 1.1234	\$ 3,186,588	\$ 1.6246	\$ 4,608,271	\$ 1,421,682	44.6%
Winter - Next 9,000 per DT	2,891,338	\$ 0.8234	\$ 2,380,728	\$ 0.9541	\$ 2,758,626	\$ 377,898	15.9%
Winter - Next 16,500 per DT	1,979,823	\$ 0.6034	\$ 1,194,625	\$ 0.6973	\$ 1,380,531	\$ 185,905	15.6%
Winter - Next 30,000 per DT	1,682,248	\$ 0.6034	\$ 1,015,068	\$ 0.6193	\$ 1,041,816	\$ 26,748	2.6%
Winter - Over 60,000 per DT	2,700,814	\$ 0.2334	\$ 630,370	\$ 0.1905	\$ 514,505	\$ (115,865)	-18.4%
Subtotal Winter	14,105,101		\$ 11,838,574		\$ 14,801,928	\$ 2,963,354	25.0%
Summer - First 1,500 per DT	2,727,607	\$ 1.1474	\$ 3,129,656	\$ 1.7524	\$ 4,779,859	\$ 1,650,202	52.7%
Summer - Next 3,000 per DT	3,362,487	\$ 0.6474	\$ 2,176,874	\$ 0.9166	\$ 3,082,056	\$ 905,182	41.6%
Summer - Next 9,000 per DT	3,378,740	\$ 0.4474	\$ 1,511,648	\$ 0.5733	\$ 1,937,032	\$ 425,383	28.1%
Summer - Next 16,500 per DT	2,435,352	\$ 0.3224	\$ 785,157	\$ 0.4132	\$ 1,006,287	\$ 221,130	28.2%
Summer - Next 30,000 per DT	2,098,027	\$ 0.1974	\$ 414,151	\$ 0.2536	\$ 532,060	\$ 117,909	28.5%
Summer - Over 60,000 per DT	3,102,903	\$ 0.0529	\$ 164,144	\$ 0.0641	\$ 198,896	\$ 34,753	21.2%
Subtotal Summer	17,105,116		\$ 8,181,630		\$ 11,536,189	\$ 3,354,559	41.0%
Subtotal			\$ 25,830,496		\$ 32,973,953	\$ 7,143,457	27.7%
Integrity Management Rider Revenues			\$ 1,922,292		\$ -	\$ (1,922,292)	-100.0%
Minimum Margin Agreement Revenues			\$ 444,658		\$ 243,364	\$ (201,294)	-45.3%
Total Revenues			\$ 28,197,446		\$ 33,217,317	\$ 5,019,871	17.8%
114 - Interruptible Transportation Service							
Monthly Charge	2,927	\$ 350.00	\$ 1,024,450	\$ 350.00	\$ 1,024,450	\$ -	0.0%
Winter - First 1,500 per DT	1,587,989	\$ 1.0081	\$ 1,600,852	\$ 2.6672	\$ 4,235,484	\$ 2,634,633	164.6%
Winter - Next 3,000 per DT	2,411,477	\$ 0.9356	\$ 2,256,178	\$ 1.8241	\$ 4,398,775	\$ 2,142,597	95.0%
Winter - Next 9,000 per DT	3,090,338	\$ 0.7531	\$ 2,327,334	\$ 1.0921	\$ 3,374,958	\$ 1,047,625	45.0%
Winter - Next 16,500 per DT	2,213,628	\$ 0.4931	\$ 1,091,540	\$ 0.5854	\$ 1,295,858	\$ 204,318	18.7%
Winter - Next 30,000 per DT	1,984,247	\$ 0.3081	\$ 611,347	\$ 0.3907	\$ 775,245	\$ 163,899	26.8%
Winter - Over 60,000 per DT	1,672,575	\$ 0.1747	\$ 292,199	\$ 0.1726	\$ 288,686	\$ (3,512)	-1.2%
Subtotal Winter	12,960,254		\$ 8,179,448		\$ 14,369,007	\$ 6,189,559	75.7%
Summer - First 1,500 per DT	2,289,575	\$ 1.1231	\$ 2,571,422	\$ 1.4212	\$ 3,253,944	\$ 682,522	26.5%
Summer - Next 3,000 per DT	3,345,866	\$ 0.8531	\$ 2,854,358	\$ 0.9785	\$ 3,273,930	\$ 419,572	14.7%
Summer - Next 9,000 per DT	3,941,221	\$ 0.7031	\$ 2,771,072	\$ 0.7215	\$ 2,843,591	\$ 72,518	2.6%
Summer - Next 16,500 per DT	2,581,133	\$ 0.4739	\$ 1,223,199	\$ 0.4646	\$ 1,199,194	\$ (24,005)	-2.0%
Summer - Next 30,000 per DT	2,323,751	\$ 0.4459	\$ 1,036,161	\$ 0.2119	\$ 492,403	\$ (543,758)	-52.5%
Summer - Over 60,000 per DT	1,604,926	\$ 0.1481	\$ 237,690	\$ 0.0826	\$ 132,567	\$ (105,123)	-44.2%
Subtotal Summer	16,086,472		\$ 10,693,901		\$ 11,195,629	\$ 501,727	4.7%
Subtotal			\$ 19,897,800		\$ 26,589,086	\$ 6,691,286	33.6%
Integrity Management Rider Revenues			\$ 2,730,675		\$ -	\$ (2,730,675)	-100.0%
Minimum Margin Agreement Revenues			\$ 863,550		\$ 746,676	\$ (116,874)	-13.5%
Total Revenues			\$ 23,492,025		\$ 27,335,762	\$ 3,843,737	16.4%

Source: Exhibit DPY-5, pages 5 and 7