BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-9, SUB 743

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	TESTIMONY OF JAN A. LARSEN PUBLIC STAFF – NORTH CAROLINA UTILITIES COMMISSION

PIEDMONT NATURAL GAS COMPANY, INC.
DOCKET NO. G-9, SUB 743

TESTIMONY OF JAN A. LARSEN
ON BEHALF OF THE PUBLIC STAFF –
NORTH CAROLINA UTILITIES COMMISSION

JULY 19, 2019

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT POSITION.

A. My name is Jan A. Larsen and my business address is 430 North Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am the Director of the Natural Gas Division of the Public Staff – North Carolina Utilities Commission (Public Staff).

Q. BRIEFLY STATE YOUR QUALIFICATIONS AND DUTIES.

A. My qualifications and duties are included in Appendix A.

Q. WHAT IS THE NATURE OF THE APPLICATION IN THIS RATE CASE?

A. Piedmont Natural Gas Company, Inc. (Piedmont or the Company) filed an application with the Commission on April 1, 2019, in this docket seeking authority to increase its rates and charges for natural gas utility service in all of its service areas in North Carolina and other relief.

Q. BRIEFLY EXPLAIN THE SCOPE OF YOUR INVESTIGATION REGARDING THIS RATE INCREASE APPLICATION.

A. My areas of investigation in this proceeding have been the review of: (1) Piedmont's proposal to continue its Commission approved Integrity Management Rider (IMR) mechanism, (2) Piedmont's proposed Distribution Integrity Management Program (DIMP) Operations and Maintenance (O&M) deferral as discussed by Company witnesses Gaglio and Barkley, (3) Piedmont's proposed changes to its current billing procedures concerning the conversion from cubic feet to therms as discussed by Company witness Barkley, and (4) the refund of various riders discussed in Public Staff witness Perry's testimony. Regarding Piedmont's proposed DIMP O&M deferral, my area of investigation focused on whether this mechanism is necessary while Public Staff witness Jayasheela discusses the regulatory asset treatment from an accounting perspective.

All other engineering matters that fall into the Natural Gas Division's responsibility are discussed by Public Staff witnesses Naba, Gilbert, and Patel.

IMR MECHANISM

Q. PLEASE EXPLAIN YOUR RECOMMENDATION REGARDING PIEDMONT'S REQUEST TO CONTINUE THE IMR MECHANISM.

A. The Commission first approved Piedmont's IMR mechanism in its Order Approving Partial Rate Increase and Allowing Integrity Management Rider issued December 17, 2013, in Docket No. G-9, Sub 631 (Sub 631 Order), Piedmont's prior general rate case. In Docket No. G-9, Subs 631 and 642, by order issued November 23, 2015, the Commission approved a stipulation between Piedmont and the Public Staff, which required that, among other things, the IMR mechanism be subject to further review by October 31, 2019. In the Sub 631 Order, the Commission concluded that adoption of the IMR mechanism was in the public interest in light of the uncontested evidence of the capital expenditures required of Piedmont for TIMP/DIMP compliance and its conclusion that the frequent general rate case proceedings that would be required to enable Piedmont to roll those expenditures into rate base would increase regulatory costs and burdens. The Commission further concluded that the adoption of the IMR mechanism would enhance the safety and reliability of utility infrastructure by enabling the Company to timely recover pipeline safety and integrity-related expenditures.

Piedmont has applied for and received Commission approval to implement rate increments to recover its Integrity Management Revenue Requirement (IMRR). There have been 11 of these rate changes, as they are implemented bi-annually. Since the Sub 642 Rate Case and through December 31, 2018, Piedmont has recorded $1.18 billion in pipeline safety spending and, as of April 2019, has recovered a total of $246 million from its rate payers through the IMR mechanism since it was first implemented in February 2014. The Public Staff consistently spends significant resources on auditing Piedmont's monthly IMR reports. We send data requests and follow up with conference calls to understand where and how what IMR activity is going on and the associated costs. We also file our comments to Piedmont's annual IMR report.

Currently the IMR increment in rates for residential customers is $1.3013/dekatherm (dt), which is an annual cost of $75 for the average residential customer, or approximately 10% of the current average bill ($752 annually).

Although Piedmont's initial estimate of $150 million annually for IMR-related costs was exceeded by over 50% ($230 million per year), I believe Piedmont's estimate in the instant docket of $173 million per year for the next three years is more accurate due to the six years of experience the Company has gathered since then.

Although the cost of pipeline safety will not go away anytime soon, I believe the burden on customers will remain at the current level or even lessen in the future as more of the IMR balance is recovered from rate payers.

Fortunately, the commodity (supply) cost of gas has remained very low (in the $2 to $4/dt level) in an historical view, and projections in the future continue to see low gas prices. Customer rates and bills are significantly lower than they were 15 years ago when commodity cost was very high after hurricanes Rita and Katrina hit the Gulf of Mexico. For example, Piedmont's benchmark commodity cost of gas is currently at $2.75/dt, and has been less than $5/dt since its 2013 general rate case. Piedmont's benchmark commodity cost of gas was $13/dt in the fall of 2005.

Based on the importance of pipeline safety and how it protects Piedmont's customers, employees, and the general public, coupled with the reasonableness of the overall bills, I recommend the IMR mechanism remain in place. Also, I agree with Company witness Barkley's proposed language changes to Piedmont's Appendix E – Integrity Management Rider.

DIMP PROPOSED FOR REGULATORY ASSET

Q. PLEASE EXPLAIN THE PROPOSED DIMP O&M MECHANISM.

A. An outline of the DIMP Proposed for Regulatory Asset Treatment (DIMP Proposal) is contained in Company witness Gaglio Exhibit_(VMG-3). The DIMP Proposal covers three areas of pipeline safety – damage prevention, records, and corrosion – and is comprised of five programs: (1) Legacy Cross Bore, (2) Watch & Protect, (3) Locatability Investigations/Repair Untoneable Assets, (4) Map Services in Geographic Information System (GIS) Mapping Technology, and (5) Close Interval Surveys on high pressure distribution lines.

Q. PLEASE EXPLAIN HOW YOU CONDUCTED YOUR REVIEW.

A. I reviewed responses from data requests sent to the Company regarding the DIMP Proposal and followed up with discussions with various Piedmont personnel. The following is summary of my findings:

<u>Overview</u>:

These programs were developed to address non-leak based threats to Piedmont's distribution system which is approximately 16,000 miles in length. The programs are described below:

Legacy Cross Bore:

This involves the piercing of a sewer line from a home or business during the installation of a natural gas service or distribution line via horizontal directional drilling. This can often go unnoticed for a long time until the customer experiences a clogged sewer line. Problems typically arise when the customer hires a plumbing contractor who power augers the sewer line in order to clear the obstruction. This practice cuts the natural gas line, and gas can build up in the sewer line and eventually enter the home or business. This very dangerous situation can, and has in some instances, caused a natural gas-fueled explosion.

It is worth noting that, even when underground lines have been located prior to the installation of the natural gas line, the sewer line from the house or business to the main in the street is considered the customer's property and responsibility and is typically not located by the North Carolina 811 system. It is my understanding that the North Carolina 811 system only marks **publicly managed** underground utility lines and not customer "house" piping.

According to Piedmont representatives, the Company has located 142 cross bores in its North Carolina territory. In addition, Duke Energy Ohio and Kentucky natural gas operations have discovered over 300 cross bores.

Watch and Protect:

This program involves the evaluation of all underground location (811) tickets and computes a probability-risk factor based upon the past history of the third-party excavator in regards to damage to Piedmont's natural gas lines, the method of installation (direct drilling or open cut), the pipe material and density, and the consequence to the public if damage occurred to Piedmont's system based on population density. The riskiest tickets are assigned an on-site visit by a Piedmont employee or a contractor hired by Piedmont prior to excavation/installation to oversee the safety of the proposed work.

We have learned that Duke Energy Ohio's natural gas operations has implemented this program and has seen a 30-35% reduction in their natural gas lines being struck by a third party doing excavation work near their natural gas lines. Also, Duke Energy Ohio has represented to us that they have received positive response from contractors regarding this program.

Locatability Investigations/Repair Untoneable Assets:

This involves both locating all gas lines in advance of any proposed underground excavation and marking lines that were not locatable (untoneable).

Geographic Information System (GIS):

Piedmont is in the process of updating its GIS system in order to locate all of its facilities the GIS framework. It is my understanding that this project should be completed in approximately five years. GIS is a framework for gathering, managing, and analyzing data. Rooted in the science of geography, GIS integrates many types of data. It analyzes spatial location and organizes layers of information into visualizations using maps.

Corrosion:

Piedmont is proposing to place test stations every 500 to 1,000 feet along its high pressure distribution lines in order to test for voltage. This will enable Piedmont to pinpoint any voltage drops that may lead to pipe being compromised through corrosion. Piedmont has represented to us that this program has been successful in Duke Energy Ohio's natural gas operations. Also, it is listed by the American Gas Association as a "best practice."

Q. WHAT IS YOUR RECOMMENDATION REGARDING THE PROPOSED DIMP DEFERRAL O&M EXPENSES?

A. Company witness Gaglio states that it is difficult to estimate these costs with much certainty and that doing so would be speculative. Based on the Company's responses to Public Staff data requests,

some of these expenses are extrapolated from Duke Energy Corporation (Duke Energy) natural gas affiliates in other states with similar programs, some are third party estimates, and some are in-house estimates.

Company witness Barkley notes that Public Service Company of North Carolina, Incorporated was granted a DIMP O&M deferral by the Commission in 2016 in its last general rate case, Docket No. G-5, Sub 565.

The issue of pipeline safety and specifically the testing of local distribution companies' systems and the implementation of safety programs has come to the forefront in the past 10 to 15 years. The focus began on transmission systems and then moved to distribution systems. Significant expenditures have been made to address pipeline safety in order to remain compliant with regulations imposed by the Pipeline and Hazardous Materials Safety Administration (PHMSA). It is difficult to put a cost on pipeline safety and the prevention of property damage and personal injury or death that can occur from a natural gas incident.

Piedmont's proposed DIMP O&M deferral estimated at $11 million annually would result in the average residential customer paying about $0.87 more in their monthly bill, assuming that these expenses would be allocated to the various rate schedules in a similar manner

as in the IMR Rider. This is only 1.4% of an existing average bill of $62.64/month. Some of these programs are on-going while others have a completion date within a few years.

Based upon the foregoing, I recommend that Piedmont be granted its requested DIMP O&M deferral with some reporting requirements. I recommend that Piedmont file annual reports beginning November 1, 2020, and continue until the Commission issues an order in Piedmont's next general rate case. The annual DIMP reports should include a listing of all DIMP O&M expenditures in Excel format and specify which DIMP program the expenditures relate to, and supporting documentation. The Public Staff should have the opportunity to examine the annual reports and, if the Public Staff deems it appropriate, comment on the expenditures.

CHANGES TO BILLING PROCEDURES

Q. WHAT IS YOUR RECOMMENDATION REGARDING PIEDMONT'S PROPOSED CHANGES TO ITS BILLLING PROCEDURES REGARDING THE CONVERSION FROM CUBIC FEET TO THERMS?

A. Natural gas is measured in cubic feet (volume) and is billed in therms (energy content). Piedmont currently links customers to 11 common gas areas (CGAs) to determine the proper energy (BTU) factor.

Piedmont is proposing to change this to two CGAs, one for its eastern operations and one for its western operations.

BTU factors remain fairly consistent at 1.034, and monthly Gas Utility Reports (meter reports) showed ranges from 1.027 to 1.043 when I analyzed them during 2016 and 2017 in a different proceeding. This is only a 1.5% difference in the lowest and highest BTU factors and is not significant to customers' bills. Also, this proposal appears to be administratively beneficial without harming customers. Therefore, I believe that Piedmont's proposal is reasonable and should be approved.

REFUND OF RIDERS

Q. WHAT IS YOUR RECOMMENDATION REGARDING THE REFUNDING OF THE RIDERS DISCUSSED IN PUBLIC STAFF WITNESS PERRY'S TESTIMONY?

A. Since these riders are margin collected from customers and now being refunded back to customers, I recommend using the customer class apportionment percentages contained in the Company's existing Appendix E – Integrity Management Rider, Section 4. Computation of Adjustment of Biannual Integrity Management Adjustment. This is the same methodology ordered by the Commission in the merger of Duke Energy and Piedmont, Docket

Nos. G-9, Sub 682, E-2, Sub 1095, and E-7, Sub 1100, when implementing a bill credit. See Ordering Paragraph No. 4 of the Order Approving Merger Subject to Regulatory Conditions and Code of Conduct issued September 29, 2016.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

APPENDIX A

QUALIFICATIONS AND EXPERIENCE

JAN A. LARSEN

I graduated from North Carolina State University in 1983 with a Bachelor of Science degree in Civil Engineering. I was employed with Law Engineering Testing Company as a Materials Engineer from 1983 to 1984. From 1984 until 1986, I was employed by the North Carolina Department of Transportation as a Highway Engineer.

In 1986, I was employed by the Public Staff's Water Division as a Utilities Engineer I. In 1992, I was promoted to Utilities Engineer II with the Public Staff's Natural Gas Division and promoted to Utilities Engineer III in 2002.

In May of 2016, I was promoted to the Director of the Public Staff's Natural Gas Division. My most current work experience with the Public Staff includes the following topics:

1. Rate Design
2. Allocated Cost-of-Service Studies
3. Purchase Gas Cost Adjustment Procedures
4. Tariff Filings
5. Natural Gas Expansion Project Filings
6. Depreciation Rate Studies
7. Annual Review of Gas Costs
8. Weather Normalization Adjustments
9. Customer Utilization Trackers / Margin Decoupling Trackers
10. Feasibility Studies / Line Extension Policies
11. Pipeline Integrity Management Riders
12. Biogas Injection into Natural Gas Systems
13. Mergers and Acquisitions