

**Before the
North Carolina Utilities Commission**

Docket No. G-9, Sub 837

GENERAL RATE CASE

**Direct Testimony and Exhibit
of
Brian R. Weisker**

**On Behalf Of
Piedmont Natural Gas Company, Inc.**

1 **Q. Mr. Weisker, please state your name and business address.**

2 A. My name is Brian R. Weisker. My business address is 525 South Tryon
3 Street, Charlotte, North Carolina.

4 **Q. By whom and in what capacity are you employed?**

5 A. I am Senior Vice President and Chief Operations Officer of Piedmont
6 Natural Gas Company Inc. (“Piedmont” or “Company”). In this capacity, I
7 am responsible for the physical operation of Piedmont’s natural gas
8 systems.

9 **Q. Please describe your educational and professional background.**

10 A. I received a Bachelor of Science degree from the United States Naval
11 Academy in 1994 and a Master of Business Administration degree from
12 Tulane University in 2001. From 1996 through 2002, I worked in the
13 United States Navy as a Division Officer, an Assistant Professor of Naval
14 Science and as a Navigation/Operations Department Head. From 2002
15 through 2006, I worked at Cinergy Corporation as a Manager. In 2006, I
16 joined Duke Energy Corporation (“Duke Energy”) as a Station Manager. In
17 2014, I became General Manager of Carolina West Outages & Maintenance
18 Services. In 2015, I became Vice President of Coal Combustion Products
19 Operations & Maintenance. In 2018, I became Vice President of Natural
20 Gas Operational Excellence at Piedmont. In January 2020, I assumed my
21 current role.

1 **Q. Have you previously testified before the North Carolina Utilities**
2 **Commission (“Commission”) or any other regulatory authority?**

3 A. Yes. I testified before this Commission in Piedmont’s last general rate case
4 in Docket No. G-9, Sub 781, and I have also previously testified before the
5 Kentucky Public Service Commission and the Public Utilities Commission
6 of Ohio. I have also sponsored testimony before the Public Service
7 Commission of South Carolina, the Tennessee Public Utility Commission,
8 and the Indiana Utility Regulatory Commission.

9 **Q. What is the purpose of your testimony in this proceeding?**

10 A. My testimony supports the Petition filed by Piedmont in this docket on April
11 1, 2024. My testimony addresses six subjects: (1) the nature, extent and
12 justification for Piedmont’s capital investments undertaken since its last
13 North Carolina last rate case, which have contributed to the need for this
14 general rate case; (2) Piedmont’s various ongoing efforts and activities
15 undertaken in compliance with growing federal requirements pertaining to
16 safety and integrity of gas pipelines and systems; (3) future anticipated
17 Pipeline and Hazardous Materials Safety Administration (“PHMSA”)
18 compliance requirements; (4) the continuing need for Piedmont’s Integrity
19 Management Rider (“IMR”) mechanism; (5) Piedmont’s proposal to
20 include its actual Advanced Methane Leak Detection (“AMLD”) expenses
21 within the Commission-approved suite of incremental distribution pipeline
22 integrity management expenses eligible for deferral; and (6) Piedmont’s

1 proposed participation and recovery of gas technology research and
2 development activities conducted by GTI Energy.

3 **Q. Are you sponsoring any exhibits to your testimony?**

4 A. Yes. I am sponsoring the following exhibit:

5 Exhibit__(BRW-1): GTI Energy – UTD Program Overview

6 **Q. Was this exhibit prepared by you or under your direction?**

7 A. Yes.

8 **Capital Investments Since Last Rate Case**

9 **Q. Please describe the nature and extent of Piedmont’s capital investments**
10 **since its last rate case?**

11 A. Since its last rate case, Piedmont has placed into service approximately \$1.4
12 billion of North Carolina jurisdictional utility plant through the end of the
13 test period in this proceeding (December 31, 2023), with an additional
14 approximate \$0.7 billion anticipated to go into service through the update
15 period of this proceeding. Together, this represents approximately \$2.1
16 billion of incremental utility plant investment placed into service during the
17 three-year period since Piedmont’s last rate case.¹ These utility plant
18 additions arose from hundreds of distinct capital projects initiated by the
19 Company in support of continuing safe and reliable regulated natural gas

¹ Piedmont’s utility plant in service balance in the last rate case was \$7.1 billion, which was the actual balance as of June 30, 2021, inclusive of the actual plant balances as of August 31, 2021, for two large capital projects that went into service in August 2021 (Robeson LNG project and Pender-Onslow Expansion project). Piedmont’s utility plant in service in this rate case application of \$9.2 billion reflects the actual balance as of December 31, 2023, plus the projected plant additions through June 30, 2024, inclusive of the projected August 31, 2024, plant balances for two large capital projects that will each go into service between July 1 and August 31, 2024 (Piedmont Customer Connect Project and Eastern Carolina Economic Expansion Project).

1 utility operations in North Carolina. The majority of these capital projects
2 pertain to construction of tangible natural gas utility infrastructure, such as
3 underground natural gas transmission and distribution pipeline and
4 appurtenances, meters, and regulator stations, that Piedmont placed into
5 service as an integral part of Piedmont's growing gas system in North
6 Carolina. Table 1A below breaks down Piedmont's \$1.4 billion of actual
7 plant additions since the last rate case through the end of the test period into
8 the primary project categories, and Table 1B is a similar breakdown of the
9 \$0.7 billion of projected incremental plant additions during the update
10 period of this proceeding. All of these plant investments were reasonable
11 and prudently incurred and are necessary for Piedmont to meet its service
12 obligations to the public in North Carolina.

13 **Table 1A**

Capital Project Category	Plant Additions* (\$ billion)	%
Pipeline Integrity Management	\$ 0.55	38%
New Customer Additions	\$ 0.37	26%
System Strengthening Infrastructure	\$ 0.25	18%
Governmental Relocation	\$ 0.12	8%
Replacement Services	\$ 0.06	4%
Various Other	\$ 0.09	6%
Total	\$ 1.44	100%

14 * Actual plant additions since last rate case through 12/31/2023

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Table 1B

Capital Project Category	Plant Additions* (\$ billion)	%
Pipeline Integrity Management	\$ 0.29	43%
New Customer Additions	\$ 0.08	11%
System Strengthening Infrastructure	\$ 0.15	23%
Governmental Relocation	\$ 0.01	2%
Replacement Services	\$ 0.01	2%
Various Other	\$ 0.13	20%
Total	\$ 0.68	100%

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* Plant additions from 1/1/2024 through update period of rate case (estimate)

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Regarding Table 1A, pipeline integrity management projects comprised three of the six largest individual capital projects since Piedmont's last rate case through the end of the test period for this proceeding. The other three were system strengthening infrastructure projects. In sum, these six capital projects comprised approximately 20% of the total plant additions during the period through December 31, 2023. By contrast, the six largest capital projects in the update period of this proceeding, taken together, are expected to comprise nearly 60% of the total plant additions during the update period. All of Piedmont's capital projects undertaken since the last general rate case through the update period of this proceeding support the Company's ability to continue providing safe and reliable natural gas service in North Carolina, and represent facilities currently needed to provide safe and reliable service to our customers.

1 **Q. What types of capital projects does the category of “Pipeline Integrity**
2 **Management” represent?**

3 A. This category reflects gas infrastructure capital projects initiated by
4 Piedmont to comply with PHMSA-imposed federal pipeline integrity
5 management requirements pertaining to integrity management programs for
6 gas transmission and distribution pipelines. This is our largest area of plant
7 additions since our last rate case.

8 As the Commission is aware, Piedmont is subject to expansive
9 regulatory requirements issued under the authority of Part 192 of the
10 regulations of the United States Department of Transportation, which are
11 fully binding on Piedmont as a provider of natural gas transmission and
12 distribution services. In compliance with these federal regulations,
13 Piedmont engages in a broad range of compliance activities with respect to
14 its transmission and distribution facilities. Among these many compliance
15 activities, Piedmont developed and administers its transmission integrity
16 management program (“TIMP”) and distribution integrity management
17 program (“DIMP”). The pipeline integrity management category includes
18 utility plant additions that Piedmont plans, initiates, and places into service
19 in compliance with its TIMP and DIMP, and, accordingly, continues to be
20 the largest category of Piedmont’s gas plant investment year-after-year.
21 Nevertheless, since Piedmont initially recovers the majority of its costs
22 associated with the pipeline integrity management capital projects under the
23 operation of its IMR mechanism, the capital investments within this project

1 category did not significantly contribute to the Company’s immediate need
2 to file this general rate case.

3 **Q. What was Piedmont’s single largest project placed into service since the**
4 **last rate case?**

5 A. The single largest project was its “Line 467 Small Diameter Replacement”
6 PHMSA compliance project, which was a TIMP capital project pertaining
7 to Piedmont’s transmission assets near Indian Trail, North Carolina.²
8 Piedmont placed the gas plant assets resulting from this approximate \$100
9 million compliance project into service in March 2023. Specifically, this
10 TIMP compliance project necessitated the construction of approximately 16
11 miles of new 24-inch diameter transmission main from Piedmont’s existing
12 transmission Line 129 to the Indian Trail interconnect in order for Piedmont
13 to perform internal line inspections on the transmission line. This project
14 also included installation of a launcher and receiver for the inspection tool,
15 construction of a gas overpressure protection station and seven regulator
16 stations, as well as the securing of new permanent easements along the
17 pipeline route. Piedmont is currently recovering the majority of this capital
18 project cost through its IMR rates, and its proposed rates in this general rate
19 case include the roll-in of this project’s full costs into Piedmont’s base rates.

² Piedmont identifies this project in its records as project no. FP2140158.

1 **Q. Please describe the other two large pipeline integrity management**
2 **projects that Piedmont placed into service since the last rate case, as**
3 **reflected in Table 1A.**

4 A. One was the “Line 475 Phase 1 (Line 67 Replacement)” TIMP project, in
5 which Piedmont placed into service over 10 miles of 8-inch transmission
6 main and replaced five regulator stations and installed a launcher to enable
7 in-line inspection of the pipeline, resulting in approximately \$36 million of
8 gas plant additions in September 2023 near Goldsboro, North Carolina.³
9 The other was the “Line 208 Retrofit” TIMP project, in which the Company
10 placed into service in September 2021 approximately \$30 million in gas
11 plant additions in northeastern North Carolina between Hertford and
12 Currituck counties, including installation of five launchers and receivers to
13 enable in-line inspection of the pipeline, along with rebuilding six regulator
14 stations.⁴

15 **Q. What types of capital projects does the category of “System**
16 **Strengthening Infrastructure” represent?**

17 A. Gas system strengthening projects bolster the reliability of Piedmont’s
18 North Carolina gas system for the benefit of all customers. They are capital
19 projects of a critical nature that support Piedmont’s hydraulic capability to
20 reliably satisfy the dynamic and growing customer demand for gas service
21 and other operational requirements across the gas system at all times. None

³ Piedmont identifies this project in its records as project no. F0230591.

⁴ Piedmont identifies this project in its records as project no. FP3130222.

1 of the capital projects since the last rate case for system strengthening are
2 currently included in Piedmont’s existing rates. Accordingly, the \$0.4
3 billion of system strengthening capital projects since the last rate case
4 through the update period⁵ significantly contributed to the Company’s need
5 to file this general rate case.

6 **Q. Please identify and describe the three largest capital project additions**
7 **placed into service for system strengthening purposes since Piedmont’s**
8 **last rate case, as reflected in Table 1A.**

9 A. The largest of the three is the “Line 142 (Flowers Plantation)” project,
10 involving Piedmont’s transmission assets near Clayton, North Carolina and
11 resulting in approximately \$60 million of gas plant additions placed into
12 service in August 2023.⁶ This reliability project necessitated the
13 construction of approximately 9.5 miles of new 8-inch diameter
14 transmission main from Piedmont’s Clayton Compressor Station at a new
15 take-off regulator station, along with a new inspection tool launcher and
16 receiver, two new regulator stations, and also involved securing new
17 permanent easements along the pipeline route. In addition, Piedmont was
18 required to install 1.5 miles of 10-inch diameter distribution main as part of
19 this project in order to meet distribution capacity needs in the area.

20 The second largest of the three is the “Line 470 Phase 1” project,
21 involving the construction of approximately three miles of new 20-inch

⁵ The \$0.4 billion reflects the sum of the system strengthening project category amounts referenced in Tables 1A and 1B, which are \$0.25 billion and \$0.15 billion, respectively.

⁶ Piedmont identifies this project in its records as project no. FP2540020.

1 diameter transmission main and installation of a new launcher and receiver
2 to enable in-line inspection of the pipeline near Charlotte, North Carolina
3 and resulting in approximately \$34 million of gas plant additions placed into
4 service in October 2021.⁷

5 The third largest of the three is the “Equipment Dr & Cannon
6 Transmission Line” reliability project, also near Charlotte, North Carolina,
7 which resulted in approximately \$25 million of gas plant additions placed
8 into service in July 2022.⁸

9 **Q. Please describe the types of capital projects included in the category of**
10 **“New Customer Additions”.**

11 A. Considering that 99% of Piedmont’s customer base is residential and
12 commercial, gas infrastructure projects categorized under new customer
13 additions largely refers to the many projects that supported the direct
14 extension of Piedmont’s network of lower-pressure distribution mains,
15 service lines, regulators, and meters to new residential and commercial
16 customers. For Piedmont’s larger gas users, such as new industrial and
17 power generation customers, the plant additions to extend gas service to
18 these new customers may also involve installation of new transmission
19 main, meter and regulator stations, and energy reliability centers.

⁷ Piedmont identifies this project in its records as project no. FP0141312.

⁸ Piedmont identifies this project in its records as project no. FP0141013.

1 **Q. What are “Governmental Relocation” capital projects and why are**
2 **they necessary?**

3 A. At times, the State of North Carolina requires Piedmont to relocate its
4 pipeline infrastructure residing in the State’s property easements or rights-
5 of-way in order to facilitate construction, modification, or relocation of
6 public roadways or similar State construction projects. Such requests
7 primarily involve road construction projects and are issued by the North
8 Carolina Department of Transportation. The State does not reimburse
9 Piedmont for this type of relocation project. As shown in Table 1A,
10 Piedmont has placed into service approximately \$0.12 billion of plant since
11 the last rate case due to State governmental relocation requirements.
12 Piedmont’s governmental relocation capital investments since the last rate
13 case have contributed to the need to file this general rate case.

14 **Q. What types of capital projects does the category of “Replacement**
15 **Services” represent?**

16 A. This category refers to Piedmont’s installation of new service lines and
17 replacement of existing ones, both of which Piedmont generally performs
18 each month throughout its service territory. Many other types of Piedmont
19 capital projects, most notably the many pipeline integrity management
20 projects on distribution assets as well as the system strengthening projects,
21 necessitate replacement of attached service lines. The majority of
22 Piedmont’s plant additions for replacement services since the last rate case
23 is linked to these other larger capital projects. Nevertheless, service line

1 replacements can also occur as a result of customer-driven requests, such as
2 changes to the customer's gas load and/or meter set location. None of these
3 projects are currently included in Piedmont's existing rates. As such,
4 Piedmont's capital investments for replacement services since the last rate
5 case, amounting to approximately \$0.06 billion as shown in Table 1A, have
6 contributed to the need to file this general rate case.

7 **Q. What types of capital projects does the category of "Various Other"**
8 **shown on Table 1A represent?**

9 A. This catchall category includes other types of gas infrastructure projects,
10 including compressed natural gas and liquefied natural gas infrastructure.
11 It also includes Piedmont capital project types which place into service
12 intangible and general plant assets such as communications and information
13 technology software and hardware, vehicles, and office equipment.
14 Piedmont's capital investments pursuant to these various projects since the
15 last rate case have also contributed to the need to file this general rate case.

16 **Q. What are the significant drivers of the \$0.7 billion of capital investment**
17 **expected during the update period of this proceeding?**

18 A. As shown on Table 1B, Piedmont's gas plant additions for the update period
19 span several categories. The largest portion of capital additions during this
20 period continues to be among the pipeline integrity management projects,
21 and I will describe the largest three TIMP projects for the update period
22 later in my testimony.

1 The second largest capital category of plant investment for the
2 update period are system strengthening projects predominantly reflecting
3 Piedmont’s placement of two energy reliability centers into service by
4 August 2024 as part of the Eastern Carolina Economic Expansion Project
5 (“ECEEP”). Piedmont is constructing one such energy reliability center
6 near Ahoskie, North Carolina⁹ and another near Roanoke Rapids, North
7 Carolina.¹⁰

8 The third largest capital category of plant investment for the update
9 period, while shown as “various other” on Table 1B, predominantly reflects
10 the Piedmont Customer Connect Project which will result in Piedmont
11 placing a new Customer Information System (“New CIS”) into service in
12 July 2024. Piedmont’s capital investments for ECEEP and the Piedmont
13 Customer Connect Project significantly contribute to the need to file this
14 general rate case.

15 **Q. Will the ECEEP facilities address the anticipation expressed in your**
16 **2021 rate case direct testimony of a continuing need to expand**
17 **Piedmont’s eastern North Carolina facilities to provide year-round**
18 **reliable firm gas?**

19 **A.** Yes, they will. As I stated in my 2021 rate case direct testimony, Piedmont
20 inherited its system in the eastern part of the State from North Carolina
21 Natural Gas Company, Inc. and, to a lesser degree, from Eastern North

⁹ Piedmont identifies this project in its records as project no. F0233850.

¹⁰ Piedmont identifies this project in its records as project no. F0233849.

1 Carolina Natural Gas Company, Inc. when Piedmont purchased the
2 facilities of these entities in 2003. In this part of the State, transmission
3 distances tend to be longer, operating pressures lower, and Piedmont's
4 overall transmission system is not as dense or redundant as it is in the more
5 populous parts of its service territory. This system is also located
6 significantly further away from upstream capacity and supply assets as well.
7 As anticipated, Piedmont has continued to experience meaningful customer
8 growth in the eastern part of the State since 2003, which has consumed
9 much of the flexibility of Piedmont's existing facilities in that region.

10 Without the new supplies of high-pressure gas delivered to
11 Piedmont in eastern North Carolina from the once proposed, but ultimately
12 abandoned, interstate transportation Atlantic Coast Pipeline project,
13 Piedmont has had to construct additional facilities to increase deliverability
14 to that region from its more traditional sources of supply. In my 2021 rate
15 case direct testimony, I also previewed for the Commission that Piedmont
16 was in the planning phases for such pending system upgrades, then
17 anticipated for completion in the 2024-2026 timeframe. The gas system
18 upgrades from ECEEP, as included in rate base in this proceeding, will
19 support the provision of reliable, year-round service, including under
20 Design Day conditions, for all firm customers in eastern North Carolina.

1 **Q. Can you provide additional detail about the largest pipeline integrity**
2 **management projects that Piedmont expects to place into service**
3 **during the update period of this proceeding?**

4 A. Yes, the requested information is as follows:

- 5 • **“Line 479 – Phase 1 and Phase 2 MAOP” Project:**¹¹ These plant
6 additions pertain to Piedmont’s transmission assets (TIMP project
7 work) near Lumberton, North Carolina, that it placed into service in
8 March 2024. *Phase 1* required construction of approximately 20
9 miles of new 12-inch diameter transmission main for Piedmont to
10 replace a section of Transmission Line 2 through Lumberton and to
11 abandon Transmission Line 52 in its entirety. During *Phase 1*,
12 Piedmont also reclassified segments of Transmission Lines 87, 113,
13 48 and 7 to distribution pressure due to segments containing non-
14 traceable, verifiable and complete (“non-TVC”) pressure test and
15 material records in order to meet maximum allowable operating
16 pressure (“MAOP”) reconfirmation needs. The incremental gas
17 plant assets resulting from Phase 1 also included three new regulator
18 stations as well as securing new permanent easements along the
19 pipeline route. *Phase 2* required construction of approximately 10.5
20 miles of new 12-inch diameter transmission main for Piedmont to
21 replace a section of Transmission Line 2 through Lumberton due to

¹¹ Piedmont identifies Phase 1 of this project in its records as project no. F0232622, and Phase 2 as project no. F0232623.

1 segments containing non-TVC pressure test and material records in
2 order to meet MAOP reconfirmation needs. As in *Phase 1*, *Phase*
3 *2's* incremental gas plant assets included the installation of an
4 inspection tool launcher, three new regulator stations, as well as the
5 securing of new permanent easements along the pipeline route. The
6 project represents over \$106 million in gas plant additions.

7 • **“Line 477 (Line 10 Replacement)” Project:**¹² This is a TIMP
8 compliance project pertaining to Piedmont’s transmission assets
9 near Rockingham, North Carolina, that it placed into service in
10 March 2024. This project required the construction of
11 approximately 17 miles of new 8-inch diameter transmission main
12 for Piedmont to replace portions of Transmission Line 10 due to an
13 operational history on Transmission Line 10 of leaks, corrosion, as
14 well as an inability to perform internal line inspections. The
15 incremental gas plant assets resulting from this project also included
16 the installation of a launcher and receiver for the inspection tool,
17 seven regulator stations, as well as the securing of new permanent
18 easements along the pipeline route. The project represents
19 approximately \$60 million in gas plant additions.

20 • **“Line 481 (Original Line 232)” Small Diameter Project:**¹³ This
21 is a TIMP compliance project involving Piedmont’s transmission

¹² Piedmont identifies this project in its records as project no. FP2239973.

¹³ Piedmont identifies this project in its records as project no. F0232623.

1 assets near Goldsboro, North Carolina that it expects to place into
2 service in June 2024. The project necessitated the construction of
3 approximately 13.5 miles of new 12-inch diameter transmission
4 main from Piedmont's existing Transmission Line 448 west of
5 Clinton, North Carolina, to the intersection with Transmission Line
6 112 near Turkey, North Carolina. The incremental gas plant assets
7 resulting from this project includes the installation of a launcher and
8 receiver for the inspection tool, three regulator stations, as well as
9 securing new permanent easements along the pipeline route.
10 Piedmont expects the project to total over \$40 million in gas plant
11 additions.

12 **PHMSA Compliance Activities**

13 **Q. Please provide an overview of Piedmont's recent PHMSA compliance**
14 **activities.**

15 A. As mentioned earlier in my testimony, Piedmont is subject to expansive
16 regulatory requirements imposed by PHMSA under its regulations
17 governing the operations and maintenance ("O&M") of gas transmission
18 and distribution assets and systems. These regulations require that
19 Piedmont engage in extensive assessment, testing, planning, verification,
20 record-keeping, documentation, inspection, and quality assurance activities
21 with respect to its 2,350 miles of transmission main and its 18,363 miles of
22 distribution main located in North Carolina as of December 31, 2023.
23 Piedmont continues to engage in a broad range of compliance activities with

1 respect to the intersection of these regulations and its transmission and
2 distribution facilities, some of which is included in the pipeline integrity
3 management capital work that I previously discussed in my testimony.

4 **Q. Please provide a summary of these recent activities.**

5 A. As shown and explained earlier in my testimony, Piedmont has invested
6 more than \$0.55 billion in pipeline integrity management capital projects
7 that it has placed into service since the last rate case through December 31,
8 2023, to ensure that its North Carolina system remains safe and fully
9 compliant with applicable regulatory requirements. The Company expects
10 to place an additional \$0.29 billion into service by June 30, 2024. The
11 activities associated with these capital projects and with O&M expenditures
12 to support compliance with PHMSA regulations applicable to Piedmont
13 include:

- 14 (1) the analysis and designation of High Consequence Areas
15 (“HCAs”) within Piedmont’s service territory;¹⁴
- 16 (2) the gathering and review of Piedmont’s archived engineering
17 files on its transmission and distribution facilities;
- 18 (3) the actual survey and inspection of Piedmont’s transmission
19 lines using smart-pig inspection tool technology;
- 20 (4) the mitigation or repair of flaws and defects detected through
21 smart-pig inspections;

¹⁴ Piedmont has 237 miles of HCAs in North Carolina as of 12/31/2023.

- 1 (5) the removal, repair, replacement, and/or upgrade of certain
2 pipeline segments where necessary to comply with PHMSA
3 regulations either because of administrative documentation
4 deficiencies or because they are non-compliant with current
5 prevailing standards for modern pipeline facilities;
6 (6) pipeline casing remediation and corrosion control; and
7 (7) periodic natural gas (methane) leak survey and repair.

8 **Q. Can you elaborate why Piedmont's compliance with PHMSA**
9 **regulations results in significant costs?**

10 A. Yes. Much of the cost is due to Piedmont's granular analysis of its
11 transmission facilities through smart-pig inspections, which typically
12 discovers anomalies that it must address. Although these are not necessarily
13 leaks, every time we find a dent, evidence of corrosion, weak spot in the
14 pipe, or failure in cathodic protection, federal regulations require Piedmont
15 to analyze the risk associated with the anomaly and devise mitigation
16 measures. In addition, Piedmont lacks complete control over specific
17 project costs since outside contractors conduct much of the PHMSA
18 compliance work. Finally, the entire industry has ramped up to comply with
19 PHMSA requirements over the last decade or so, which has only increased
20 competition for qualified contractors, and correspondingly inflated the costs
21 of this work.

1 **Q. Have customers benefitted from Piedmont's PHMSA compliance**
2 **work?**

3 A. Yes, and so has the public at large. Piedmont's gas system is much safer
4 and more transparent now than it was over a decade ago, due in part to the
5 TIMP and DIMP activities required by PHMSA regulations.

6 **Q. What has contributed the most to system safety?**

7 A. Whenever Piedmont identifies and remedies a potential physical system
8 vulnerability, it necessarily improves system safety. Piedmont's
9 implementation of the electronic compliance systems that I described in my
10 2021 rate case testimony has allowed Piedmont to manage its compliance
11 activities more efficiently with most of the necessary data digitized and
12 readily available. This is a vast improvement from the early days of
13 PHMSA compliance when most of our records relating to system
14 construction, maintenance and repair were in paper format.

15 **Q. How does Piedmont prioritize TIMP and DIMP remediation**
16 **requirements for discovered anomalies?**

17 A. Piedmont employs a sophisticated risk analysis system that analyzes the
18 type of anomaly in terms of the consequences of failure versus the
19 likelihood of failure. The Company then prioritizes mitigation measures
20 accordingly that it associates with that anomaly.

21 **Q. Is Piedmont compliant with its PHMSA obligations?**

22 A. Yes. The Company has made huge progress in terms of system safety and
23 integrity, and we are compliant with our PHMSA obligations. Since our

1 last rate case, Piedmont has retrofitted more than 293 miles of our North
2 Carolina transmission system to make it piggable, conducted in-line
3 inspections of more than 699 miles of transmission main, and uncovered
4 831 anomalies, all of which we have repaired or otherwise mitigated.

5 **Q. Does that mean that Piedmont’s TIMP and DIMP work is coming to an**
6 **end?**

7 A. No. By design, PHMSA’s TIMP and DIMP requirements are cyclical and
8 iterative. As such, Piedmont will continue to engage in the inspection,
9 assessment, remediation, and documentation cycle with respect to both
10 transmission and distribution integrity on an ongoing basis. Resulting
11 capital costs as well as O&M expenses will continue to be difficult to predict
12 because remediation is dependent on the inspection findings.

13 **Piedmont’s Anticipated Ongoing PHMSA Expenditures**

14 **Q. Are PHMSA’s regulations static or do you anticipate changes to those**
15 **regulations in the future?**

16 A. PHMSA’s regulations are subject to revision and change. In fact, they were
17 amended recently to include guidance on Rupture Mitigation Valves
18 (“RMV rule”). The amendment for the RMV rule substantially expands
19 obligations in effect and requires increased value equipment for remote
20 operations as well as increased operational response requirements in the
21 event of a pipeline rupture. An amendment for Leak Detection and Repair
22 (“LDAR rule”) is about to be promulgated. The LDAR rule will expand
23 leak assessment criteria, grading and repair requirements. We anticipate

1 that the PHMSA rules may continue to change over time and experience has
2 shown that they likely will be no less stringent.

3 **Q. Does Piedmont have a projection of capital investments for PHMSA**
4 **compliance activities?**

5 A. Yes. During the projected three-year period ending December 31, 2026,
6 Piedmont expects to invest over \$866 million in gas plant additions for the
7 pipeline integrity management projects. Table 2 below summarizes these
8 forecasted capital project investments by year.

9 **Table 2**

(\$ million)

Pipeline Integrity Management Capital Investment *	2024 Forecast	2025 Forecast	2026 Forecast	Total
Corrosion Control	\$ 6.6	\$ 2.8	\$ 2.4	\$ 11.8
Casing Remediation	3.7	20.1	0.1	23.9
Distribution Integrity	10.7	4.8	3.9	19.4
Transmission Integrity	358.3	74.4	378.6	811.3
Gross Total	\$ 379.3	\$ 102.1	\$ 385.0	\$ 866.4

*Represents the projected gross additions to Utility Plant in Service by calendar year.
This forecast was also provided by Piedmont in Schedule 10 of its 2023 Annual IMR
Report filed in Docket No. G-9, Sub 835 on October 31, 2023.

10 **IMR and Expense Deferral Treatment for PHMSA Compliance**

11 **Q. Please describe the importance of the IMR mechanism to Piedmont's**
12 **efforts to economically comply with PHMSA pipeline safety and**
13 **integrity requirements.**

14 A. As shown in Tables 1A, 1B and 2, these investments in a safe and compliant
15 system have been and will continue to be significant. As a result of the

1 accelerated cost recovery opportunity under the IMR, Piedmont does not
2 endure the typical regulatory lag associated with these capital projects,
3 allowing it to focus on the continuing safety and reliability of its system and
4 to pursue compliance projects without factoring in the impacts of regulatory
5 lag on its bottom line.

6 **Q. Does Piedmont propose to continue the operation of its IMR**
7 **mechanism following this rate case?**

8 A. Yes, absolutely. The IMR mechanism is critical to the Company's ability
9 to pursue robust compliance with PHMSA regulations.

10 **Q. Is the IMR the only regulatory mechanism that helps Piedmont address**
11 **regulatory lag related to PHMSA compliance spending?**

12 A. No. The Commission has previously granted Piedmont authority to defer
13 O&M expenditures for its pipeline integrity management programs. This
14 deferral authority, commonly referred to as Piedmont's "PIM-T" and "PIM-
15 D" expense deferrals (referring to "pipeline integrity management –
16 transmission" and "pipeline integrity management – distribution",
17 respectively) are also very important to the Company's ability to maintain
18 its robust PHMSA compliance activities. Piedmont requests the continued
19 allowance of these expense deferrals.

20 **Q. Can Piedmont simply just build these costs into its pro forma revenue**
21 **requirement based on a set, going-level annual expense?**

22 A. No, Piedmont cannot build these costs into its pro forma revenue
23 requirement because they are highly variable in nature, and we do not have

1 a sufficient mechanism to formulate a reasonable, static “going level”
2 estimate of these costs. Based on these facts, deferral treatment continues
3 to be a more accurate way to account for and recover these costs.

4 **Q. What modifications, if any, is Piedmont seeking to its O&M expense**
5 **deferral authority for its PHMSA compliance activity?**

6 A. Piedmont is seeking one such modification in this proceeding, and it
7 pertains to its PIM-D expense deferral authority. Specifically, Piedmont is
8 seeking clear authority from the Commission to include as part of its
9 ongoing PIM-D expense deferrals the expenses associated with Piedmont’s
10 utilization of AMLD for gas leak identification and repair work on its
11 distribution assets.

12 **Q. Why is Piedmont seeking to include in its PIM-D deferrals the expenses**
13 **associated with AMLD of its distribution assets in North Carolina?**

14 A. Until 2024, Piedmont largely fulfilled its PHMSA compliance work for
15 periodic leak detection and repair through the traditional, manual process of
16 “walking the facilities” and the use of handheld devices for identifying
17 leaks. Given that Piedmont has over 18,300 miles (and growing) of
18 distribution pipeline across the State, walking lines to identify leaks is
19 inefficient and costly given the existence of superior alternatives such as
20 AMLD. Piedmont completed its investigation and piloting of AMLD in
21 2023 in parallel with traditionally performing its PHMSA leak survey work.
22 Specifically, Piedmont’s utilization of AMLD in this regard involves
23 Piedmont using a third party to capture, process, and analyze satellite

1 imagery using short-wave infrared technology to detect methane plumes
2 originating from Piedmont's North Carolina pipeline distribution system,
3 followed by a third-party on-site investigation of the methane plumes
4 identified through the system's satellite imagery in conjunction with leak
5 remediation. Based on the experiences and proof of concept achieved using
6 AMLD as the primary method of compliance with leak identification and
7 repair activities, Piedmont is now proceeding with using AMLD as the
8 primary means for this PHMSA distribution compliance work.

9 **Q. Does Piedmont anticipate a workforce reduction associated with its use**
10 **of AMLD?**

11 A. No. Piedmont had already redeployed its skilled workforce involved with
12 leak detection and repair before AMLD to other activities in support of
13 Piedmont's continuing operation of a safe and reliable natural gas system in
14 North Carolina.

15 **Q. What is the going-level annual expense associated with utilizing AMLD**
16 **for PHMSA compliance purposes?**

17 A. It is too early to tell at this time, and Piedmont will need at least a few years
18 of further experience with AMLD as a compliance tool before it can reliably
19 predict a going-level annual expense for ratemaking purposes. Maturity of
20 the technology should also reduce costs over time. Given the uncertainty
21 and likely variability in this year-over-year DIMP expense, it is ideally
22 suited to be included in the PIM-D deferral treatment until Piedmont's next
23 rate case, or possibly thereafter.

1 **Q. Is Piedmont requesting deferral treatment for these costs in this**
2 **proceeding?**

3 A. Yes, we are. As stated earlier in my testimony, Piedmont is requesting that
4 its AMLD costs be explicitly included as part of Piedmont’s ongoing PIM-
5 D expense deferral authority.

6 **Participation in Applied Gas Energy Research through GTI Energy**

7 **Q. What does Piedmont seek to accomplish by participating in GTI**
8 **Energy’s Utilization Technology Development (“UTD”) program and**
9 **why should Piedmont be granted the opportunity to recover this cost**
10 **through rates?**

11 A. Piedmont alone cannot cost effectively fund an entire research and
12 development projects to benefit its customers. A more cost-effective
13 approach would be through a utility consortium to leverage research and
14 development investments, such as that offered by GTI Energy’s UTD
15 program. As part of this program, Piedmont will be part of a group of other
16 interested gas distribution companies that fund and help steer the direction
17 of projects, while GTI Energy manages the program and performs much of
18 the research.

19 UTD is a not-for-profit organization which started in 2004 with a
20 small group of utilities and today is comprised of 20 natural gas distribution
21 companies that direct a program, in collaboration with many partners, of
22 near-term applied research to develop, test and demonstrate safe, energy-
23 efficient, environmentally friendly, and cost-effective end-use technologies

1 to benefit their gas customers. North Carolina's technology interests and
2 needs, like other states, are based on building types, venting safety, specific
3 codes and standards, weather, and other localized factors. One major
4 benefit of Piedmont's participation in UTD is that Piedmont can tailor
5 projects to the specific customer needs of our State. Piedmont can
6 potentially test any add-ons or optimization of a specific technology through
7 demonstration projects in its service territory to verify performance and
8 measure environmental benefits. See my Exhibit __ (BRW-1) for additional
9 information about UTD.

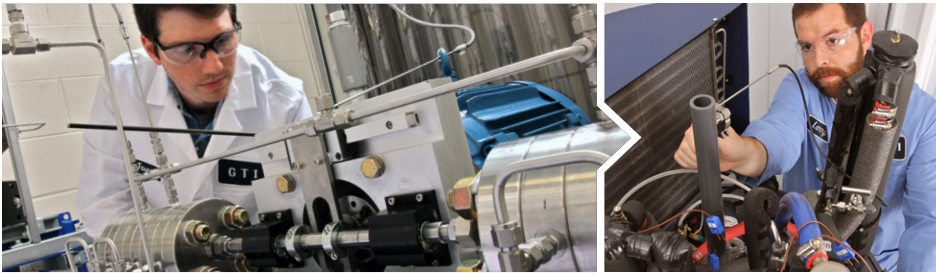
10 UTD's research, development and demonstration technology
11 portfolio impacts residential, commercial, industrial, and transportation
12 market segments, and includes gas equipment and appliances, industrial
13 process and combustion systems, distributed generation, combined heat and
14 power systems, and natural gas vehicles. UTD's member companies work
15 together in a collaborative manner to control and direct program content,
16 initiatives, individual research projects, and other activities. Ultimately,
17 these solutions more effectively enable safe, reliable, and resilient operation
18 of end user's equipment and energy delivery systems, save customers
19 energy and money, achieve superior performance, and integrate with
20 renewable energy sources.

21 **Q. Does this conclude your Direct Testimony?**

22 A. Yes, it does.

**PIEDMONT NATURAL GAS COMPANY, INC.
GENERAL RATE CASE
DOCKET NO. G-9, SUB 837**

EXHIBIT_(BRW-1)



UTILIZATION TECHNOLOGY DEVELOPMENT

COLLABORATIVE NATURAL GAS PROGRAMS BENEFIT UTILITIES AND THEIR CUSTOMERS

GOALS

SAVE CONSUMERS MONEY

Advanced gas technologies reduce energy bills through higher efficiencies, and can lower installation costs by superior designs or more product choices.

SAVE ENERGY

Innovative end-use equipment with substantially higher efficiency reduces consumers' energy consumption and costs, and supports energy efficiency program goals. Codes and standards updates preserve consumers' options to use this equipment, including through the efficient direct use of gas.

ENSURE SAFE, RELIABLE, AND RESILIENT OPERATION OF END USER'S EQUIPMENT AND ENERGY DELIVERY SYSTEMS

New equipment and systems that leverage the high reliability of underground gas distribution (including on-site-, self-, or back-up-power) and incorporate safety advancements support the reliable, resilient operation of buildings, facilities, microgrids, and other critical infrastructure.

ACHIEVE SUPERIOR ENVIRONMENTAL PERFORMANCE

Cutting-edge combustion, heat pump, heat-recovery, and transportation technologies provide ultra-high energy efficiency while meeting rigorous environmental standards and minimizing emissions.

INTEGRATE WITH RENEWABLE ENERGY SOURCES

Integrating renewable natural gas (RNG) or hydrogen made from renewable energy (RE) with natural gas reduces greenhouse gas (GHG) emissions of all gas-fired equipment. Coupling that with additional site-based integration of other RE provides economical pathways to achieve low-carbon environmental goals such as Net Zero Energy (NZE) buildings—while ensuring that consumers' annual and peak energy needs are met.

UTD is managed by GTI, a leading non-profit research, development, and training organization.

MISSION

Identify, select, fund, and oversee research projects resulting in innovative customer solutions which maximize the environmental performance, affordability, efficiency and safety of equipment and processes that use natural gas and renewable energy resources.

HOW WE DO IT

- Develop, demonstrate, and validate advanced equipment solutions through technology innovations, better designs, lab testing, and field demonstrations—all important steps for cost-effective market transformation
- Partner with energy users, governmental agencies, laboratories, industry, and utilities
- Apply rigorous scientific analysis and testing to optimize efficiency and environmental performance
- Provide emissions- and codes-and-standards-related support and expertise for innovative product developments
- Integrate with renewable energy sources to impact NZE



Utilization Technology Development

Utilization Technology Development, NFP (UTD) is at the forefront of research, development, and deployment for end-use equipment and appliances. As a not-for-profit corporation led by our 20 utility member companies, we represent over 37 million natural gas customer accounts in the Americas. UTD directs and sponsors a wide-ranging program to enhance the use, reliability, and efficiency of natural gas appliances and technologies. By taking R&D projects and new technologies from the laboratory to the field, UTD enhances market success via field testing and commercialization.

UTD's collaborative research approach showcases the benefits of using natural gas in residential, commercial, industrial, power generation, and transportation markets as an environmentally-friendly energy source, creating efficient and cost-effective new technologies, and identifying emerging needs and solutions.

Member companies pool and actively direct their own R&D investment resources while also leveraging them with significant supplemental program funding from federal, state and local government sources or other industry stakeholders to benefit utilities, their customers, and the environment.

As markets rapidly evolve, there is an urgent need for ongoing investment in advanced end-use technologies to address opportunities to reduce energy intensity and consumption, achieve significant economic and environmental benefits, leverage more renewable energy, and complement energy efficiency programs.

UTD members combine their interests, expertise, and resources into focused R&D projects that shape our energy future, and contribute to a robust economy and cleaner environment.

Background

▼ UTD was formed based on extensive input from energy utilities and GTI's Public Interest Advisory Committee in the early 2000s. This communication encouraged the development of a mechanism to leverage investments in utilization research, development, and demonstration (RD&D) in order to benefit utilities and their ratepayers.

It became clear that managers at today's energy utilities operate in a difficult business environment. Among the challenges they face are volatile energy prices; environmental regulations; the influence of mergers and acquisitions; the uncertain progress of corporate unbundling and retail competition; and the decoupling of rates. These utilities are often hampered in their struggle by a shortage of end-use technologies and information to enable them to offer end users a compelling value proposition.

Surveys of UTD companies have identified the following needs and opportunities:

- **Better end-use technologies:** Utilities and their customers are looking for new technology and more sophisticated products to lower energy bills, reduce equipment first costs, meet increasingly stringent environmental regulations, address the challenges associated with carbon management, and integrate renewable resources.
- **Residential segments:** New increased-efficiency and lower-emissions gas equipment must be developed to ensure that existing and new homes and multifamily buildings can continue to choose natural gas options (for space and water heating and other applications) which offer the consumer clear benefits.
- **Commercial segments:** Several traditional natural gas product segments, including food service and heating, are being displaced by electric technologies. This can reduce product options for customers and increase their life-cycle cost for energy systems. Increased-efficiency gas equipment can be the answer.
- **Industrial segments:** In today's highly competitive and demanding economy, utilities are willing to work with industrial customers to help them become more efficient and less polluting, thereby staying solvent, even at the expense of utility gas throughput.

- **Transportation segments:** The transportation area is increasingly recognizing the economic benefits of natural gas vehicles (NGVs). Reducing the costs of adopting NGVs and their fueling infrastructure, particularly first-cost entry into the market, is important. Ensuring a variety of NGV engines is important in expanding this market segment.
- **Distributed energy:** Utilities agreed that fuel cells, microturbines, and advanced engines represent a huge opportunity for customers and gas utilities, but important technical and other barriers remain.
- **Integrated cooling and power packages:** Gas cooling continues to attract managerial interest due to its potential to balance gas loads and reduce gas-fired peak electricity loads. The new opportunity may be for a packaged, off-the-shelf system integrating power generation and cooling technology.
- **Information needs:** Specific value is seen in developing quantitative information on the costs and economic benefits to customers of installing advanced gas equipment, as well as ensuring equitable treatment of fuel sources in codes and standards.

Vision

▼ To address these urgent needs, GTI and several leading gas utilities worked together to define and launch Utilization Technology Development, NFP (UTD) in 2004 as a not-for-profit corporation and investor-driven collaborative RD&D program. The UTD program is guided and managed by direct industry involvement and perspective, contributing to a healthy scenario for the gas industry and providing sustained benefits for the gas consumer. It is funded by the utilities and other interested stakeholders.

UTD addresses the market needs identified by its members and provides an opportunity to address the significant gap in product-versus-potential in the marketplace. UTD identifies and advances technologies and best practices for a robust gas product portfolio and provides near-term impact by delivering advanced technologies that offer the consumer lower energy bills, lower first costs, environmental benefits, and other advantages.

UTD coordinates activities with other industry organizations to maximize program value to its investors.

Value to Member Investors

▼ UTD provides members with information, tools, products and software to aid their customers in value-driven gas markets. This includes an understanding of opportunities, an assessment of the implementation barriers, and assistance with the deployment to achieve sustained market impact. Members meet in person twice a year and via teleconference on a regular basis.

Specific energy utility needs addressed include:

- **Identification and assessment** of barriers and relevant technologies for near-term implementation
- **Development of higher energy-efficiency technologies** to broaden the gas product portfolio and reduce environmental impact
- **An industry forum** that enables peer networking and opportunities for shared learning from the varied experiences of other utilities
- **Validation** of performance, operating characteristics, and emissions for developed and emerging technologies
- **Substantial funding leverage** and market impact by collaborating with other gas companies and significant co-funding from public and private funding partners.

UTD provides members with a balanced perspective and portfolio for technology investment providing risk reduction, security, and benefits under a range of scenarios. Achieving the optimal balance within a diverse technology program for the gas industry and its customers is a primary objective of UTD.

Selecting Projects

▼ Individual projects are proposed by various sources including UTD members and research performers. Those proposals are reviewed and prioritized by the UTD members. Projects designated as high priority by one or more members are presented to the entire membership for funding consideration. **Each member controls their own funds and determines what technical efforts to fund and how much to invest in each project.** Once a project receives adequate funding, and the statement of work, cost and timeline are agreed to by the funding members, it is initiated.

Deliverables

▼ The deliverables in the Project Portfolio are based upon the final projects selected, and are finalized through guidance and recommendations of participants, but are expected to include:

- Detailed periodic reports; a final report; and relevant software

- Periodic project-specific teleconference or web-based conferences
- Opportunities for field evaluation and demonstration in service territory
- Opportunities for intellectual property royalty or return, based upon any technology that may result from cofunding applied to the development of these respective systems
- Opportunities to participate in and/or guide the development of proposals for leveraged co-funding from state, local and federal agencies or other RD&D funding sources.

Program Investment

▼ Investment in UTD is offered to gas companies on a per-meter basis. A portion of these funds supports UTD program management and G&A activities. Funding commitment is for an initial one-year period, with annual approval thereafter.

Member dues are set at US\$0.50 per meter per year with a minimum annual dues level of US\$100,000 and a maximum annual dues level of US\$350,000 for an individual company. At their discretion, individual companies can invest and direct additional funds towards projects of specific interest.

Companies with less than 250,000 meters can pool with other gas companies to meet the minimum investment level.

Non-gas utilities and other organizations may be allowed to participate upon approval of UTD's Board of Directors.

Corporate Structure and Governance

▼ UTD is incorporated as "Utilization Technology Development, NFP" (UTD), a 501(c)(6) not-for-profit corporation in the State of Illinois. UTD is governed by a Board of Directors which is comprised of utilities providing the full per-meter charge and meeting the minimum investment level. The Board finalizes and approves the bylaws and provides policy and operating guidance for UTD. Board decisions are based on a one-vote-per-company basis.

Project-level decisions are made by the investing companies for each specific project. Decisions on projects are made on an investment-weighted basis.

Contacts

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