

April 11, 2022

VIA ELECTRONIC FILING

Ms. Antonia Dunston
Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street, Dobbs Building
Raleigh, North Carolina 27603

Re: Docket No. M-100, Sub 163

Dear Ms. Dunston:

Enclosed are Piedmont Natural Gas Company Inc.'s responses to the Public Staff's First Set of Data Requests in the above-referenced docket.

Please note that these responses contain information that is confidential in nature, accordingly, Piedmont requests that this information be treated as the confidential and proprietary trade secret of Piedmont as provided in N.C. Gen. Stat. § 132-1.2. Piedmont has also included for filing redacted public versions of these responses.

Thank you for your assistance with this matter. If you have any questions about this filing, you may reach me at the number shown above.

Sincerely,

/s/ James H. Jeffries IV
James H. Jeffries IV

JHJ/bms

Enclosure

cc: Elizabeth Culpepper
Bruce Barkley
Pia Powers

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the attached is being served this date upon all of the parties to this docket electronically or by depositing a copy of the same in the United States Mail, First Class Postage Prepaid, at the addresses contained in the official service list in this proceeding.

This the 11th day of April, 2022.

/s/ Brooke M. Szymanski
Brooke M. Szymanski

Piedmont Natural Gas Company, Inc.
Docket No. M-100, Sub 163
Public Staff Data Request No. PNG 1
Date Issued: March 29, 2022
Date Due: April 8, 2022

1. How does the Company define “extreme weather conditions?”

Response: Extreme weather conditions would be conditions with an average temperature 5 degrees Fahrenheit below our design temperature of 8.6 degrees Fahrenheit in North Carolina.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

Response provided by Piedmont Natural Gas Company, Inc. on April 8, 2022.

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2. What is the low ambient temperature design limit for the Company's critical equipment (LNG plants, compressors, valves, etc.)?

- a. Is the Company's Design Day temperature within design temperatures for such equipment?

Response: Critical equipment has been evaluated for reliable operation at 0 degrees Fahrenheit.

- a. Yes, Piedmont's Design Day temperature is within design temperatures for such equipment.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

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3. Does the Company maintain redundancy of critical equipment in case of failure?

Response: Yes, the Company maintains redundancy of key critical equipment.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

Response provided by Piedmont Natural Gas Company, Inc. on April 8, 2022.

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4. Does the Company maintain backup power for critical equipment/facilities (including system control)?

- i. Is the backup power designed to operate at the Design Day temperature?
- ii. How does the Company ensure the backup power will operate during an upcoming cold-weather event?
- iii. What duration of backup power does the Company maintain for such equipment/facilities?

Response: Yes, the Company maintains either gas fired emergency generators or battery powered Uninterrupted Power Supply ("UPS") systems at critical sites that require power.

- i. Yes, the backup power is designed to operate at the design day temperature.
- ii. The Company performs annual maintenance and performs testing to ensure emergency backup power systems will operate.
- iii. Emergency generators can operate indefinitely as they use natural gas as a fuel supply. UPS systems vary in length of service depending on site power requirements but last a minimum of 24 hours.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

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5. Does the Company's cold-weather emergency plan rely on staff traveling to/from field equipment?

- a. Would reliability of the system be compromised if this travel were not possible?

Response: Yes, because the Company's cold weather emergency plan calls for periodic site visits to M&R stations.

- a. Reliability would not be compromised if travel were not possible.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

Response provided by Piedmont Natural Gas Company, Inc. on April 8, 2022.

REDACTED

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6. In the last five years, has the Company experienced system pressures below design from Transco due to high demand?

- a. If so, what was the cause?
- b. What notification did the Company receive, if any, prior to the event?
- c. How did the Company respond?
- d. Discuss the extent to which service to Firm customers was impacted.

Response: Yes, the Company has experienced Transco pressures below design.

- a. There were various causes for system pressures below design from Transco such as equipment issues and high demand.
- b. Usually no notification is given from Transco as the events are unexpected. Planned events have mitigation strategies in place.
- c. When low pressures have impacted customers, the customers were notified.
- d. No firm customers have been impacted by low Transco pressures, with the exception of certain firm service received by Piedmont's power generation customers served under Commission-approved special contracts.

CONFIDENTIAL PORTION OF RESPONSE TO 6d:

[REDACTED]

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

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7. Does the Company remotely monitor system pressures?
- a. What are the Company's low-pressure and high-pressure thresholds for safe operation of its transmission/distribution system?
 - b. Has the Company experienced pressures outside safe operation parameters due to high demand?
 - i. What was the cause of the pressure excursion(s)?
 - ii. How did the Company respond?
 - iii. What has the Company done to prevent future excursions?

Response: Yes, the Company does remotely monitor system pressures.

- a. The high-pressure threshold is the Maximum Allowed Operating Pressure ("MAOP") of the transmission or distribution system. The low-pressure threshold is unique to each pipeline and can range from 5 psig or less (on distribution lines) to 600 psig (on transmission lines).
- b. The Company has not experienced pressures outside of this range during high demand as evidenced by the Company having not lost firm customers.
 - i. N/A
 - ii. N/A
 - iii. With no excursions, there are no specific future actions. However, the Company does evaluate system performance every year to determine needed infrastructure to prevent pressure excursions.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

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8. The Public Staff has concerns regarding large natural gas loads that would operate only during extreme cold weather conditions, including loss of electricity situations, and disrupt the natural gas system. How many natural gas-fired emergency backup electric generators in excess of 25kW or emergency natural gas-fired heaters in excess of 400,000 BTU/hr does the Company have interconnected to its system?

Response: The Company does not retain this information. However, the Company does plan for and assume all firm loads are at full contract levels during a cold weather event. If emergency generators or heaters are not included in the customer's firm gas contract then they would not be eligible to operate during a high demand event.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

Response provided by Piedmont Natural Gas Company, Inc. on April 8, 2022.

REDACTED

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9. Does the Company supply Combustion Turbine and/or Combined Cycle generators supplying the electrical grid through Interruptible Service?

- a. If so, how many electric generators are on Interruptible Service vs. Firm Service?
 - i. Please provide load served to these customers.
 - ii. Please show these facilities on a map.
- b. Has the Company curtailed any of those electric generators during previous cold-weather events?
 - i. Has the Company made changes to avoid curtailing electric generators during future cold-weather events?
 - ii. Please provide Company procedures followed while issuing Curtailment orders to customers or Operational Flow Orders (OFO's).

Response: Yes, the Company supplies gas to five electric generators that have contracted for some type of interruptible service.

- a. **THE RESPONSE TO 9a IS CONFIDENTIAL**

[REDACTED]

i.

[REDACTED]

ii.

[REDACTED]

b.

[REDACTED]

i.

[REDACTED]

REDACTED

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[REDACTED]

[REDACTED]

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Neil Moser, Director – Gas Engineering & Asset Planning

Response provided by Piedmont Natural Gas Company, Inc. on April 8, 2022.

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**Piedmont Natural Gas Company, Inc.
Docket No. M-100, Sub 163**

Confidential Attachment Filed Under Seal

Piedmont Natural Gas Company, Inc.
Docket No. M-100, Sub 163
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10. How would the Company curtail customers in order of margin contribution in an extreme weather situation?

- a. Does the Company have automated valves on the system to curtail firm class customers based on margin contribution (commercial, industrial, etc.) and protect residential customers from loss of gas supply?

Response: The Company would call customers in order of margin to request them to stop using natural gas. If customers did not stop using gas, a technician would be dispatched to turn gas off if needed.

- a. The Company does not have automated valves in order to curtail firm customers in most locations.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

Response provided by Piedmont Natural Gas Company, Inc. on April 8, 2022.

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11. How does the Company estimate time to restoration of service for customers?
How and how often would the Company update customers?

Response: The estimated time to restore service to customers is based on several factors such as length of gas main needing a purge, number of customers and the geographic dispersion of customers needing a relight. The Company would use multiple social media outlets, email notifications and texts messages to update customers several times each day if the outage lasts that long.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

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12. What is the Company's protocol for communicating with customers in case of curtailment or operational flow orders?

- a. How would the Company communicate curtailment plans to customers to allow those customers to prepare?
- b. Please provide the Company's planned curtailment communication for interruptible and firm service customers for the following timeframes ahead of an anticipated extreme cold-weather event:
 - i. One week
 - ii. Three days
 - iii. One day
 - iv. Day-of

Response: For three days to one week prior to an anticipated extreme cold-weather event, the Company would endeavor to give interruptible customers notification that a curtailment may be called given the Company's current system load forecast.

For one day to the day-of curtailment, notification would be given to interruptible customers via a phone call by a Piedmont representative as soon as practicable once a curtailment event has been called.

In the event the Company needed to curtail firm customers, the customers would be notified via a phone call from a Piedmont representative as soon as practicable once a curtailment event has been called. In the case of an OFO being implemented, the Company will post a notice on the Electronic Bulletin Board (GTIS).

Name and title of responsible person: Sarah Stabley, Managing Director – Supply Optimization & Pipeline Services

Name and title of preparer: Sarah Stabley, Managing Director – Supply Optimization & Pipeline Services

Response provided by Piedmont Natural Gas Company, Inc. on April 8, 2022.

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13. Does the Company have a text/email messaging service to contact firm service customers in case of impending curtailment?

- a. For what percentage of customers does the Company have direct contact information?
- b. Does the Company test this system for operation and effectiveness? Please explain.

Response: No, the Company does not have a text/email messaging service to contact all firm customers in case of curtailment.

- a. The Company has direct contact information for all customers.
- b. N/A - The Company does not have an automated system to test.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

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14. If a residential housing unit is equipped with automatic pilot lights on all natural gas equipment, would that residential housing unit still require human intervention to restore natural gas service?

Response: Yes, the residential meter would have to be turned off in order to restore the gas main. All gas equipment must be turned off inside, main restored, meter turned on, house gas piping purged if necessary, and finally, the gas equipment turned on for either manual or automatic relight.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Neil Moser, Director – Gas Engineering & Asset Planning

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15. During previous extreme cold weather events, what percentage of firm service demand was from residential customers (in other words, if the Company could curtail by margin contribution, what magnitude of error in supply vs. demand would result in curtailing residential customers)?

Response: For the month of January 2022 for North Carolina, residential usage accounted for approximately 17% of total system consumption. January 2022 was the most recent cold weather event month. There has not been an “extreme” cold weather event in Piedmont’s service territory since winter 2013/2014.

Name and title of responsible person: Neil Moser, Director – Gas Engineering & Asset Planning

Name and title of preparer: Adam Long, Vice President – Gas Operations

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16. When was the last time the Company had to curtail residential customers due to a cold weather event and what was the cause?

- a. How many customers were affected and for what duration?
- b. What actions has the Company taken to prevent reoccurrence of such an event?

Response: The Company has never curtailed residential customers due to a cold weather event in NC.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Neil Moser, Director – Gas Engineering & Asset Planning

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17. What quantity of residential customers would have to be curtailed for the Company to request outside resources for relighting? What contingencies does the Company have in place if those outside resources are unavailable?

Response: The Company would request resources from outside NC in the event of a curtailment of 15,000 or more customers. Piedmont has the ability to request help from its own internal resources normally operating in South Carolina and Tennessee, as well from its affiliate gas LDC resources from other jurisdiction (namely, Ohio and Kentucky). Additionally, if necessary, the Company would supplement with other outside resources, calling upon industry partners, such as the Southern Gas Association and American Gas Association, that facilitate mutual aid among gas LDCs.

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Adam Long, Vice President – Gas Operations

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18. Regarding the response to Question 2, does the limited hours of data upload present a risk that the forecasting model will under assess the risk of an overnight natural gas peak?

Response: No. The GasDay forecasting tool provides updated forecasts for the current day and next seven consecutive days every hour between 7am and 5pm to take into account changing weather conditions and updated forecasts.

This forecast is used by Piedmont's Gas Trading and Gas Scheduling team in addition to using available storage on the upstream interstate pipelines. Any adjustments from the actual load to the forecasted load can be made by Trading and Scheduling on an intra-day basis. Piedmont's Gas Control monitors real time system conditions on a 24-hour basis such that the Company can adjust overnight by using on-system LNG if system loads are higher than forecasted.

Name and title of responsible person: Jeff Patton, Manager – Pipeline Services

Name and title of preparer: Sarah Stabley, Managing Director – Supply Optimization & Pipeline Services

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19. Regarding the response to Question 4, please clarify whether the Company under or over forecasted the peak day consumption?

Response: For the absolute forecast error rates in the response to Question 4, the Company under-forecasted the peak day consumption.

Name and title of responsible person: Jeff Patton, Manager – Pipeline Services

Name and title of preparer: Sarah Stabley, Managing Director – Supply Optimization & Pipeline Services

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20. Please discuss issues experienced from the 2014 and 2019 cold weather events in terms of factors affecting PNG's system from not being able to serve its firm customers.

- a. Please include the total load and numbers of customers affected,
- b. The number of days PNG was unable to efficiently serve its firm customer load,
- c. All costs involved in making changes to its system to avoid such future issues, and
- d. A list of all system changes (including year and month of implementation).

Response: No firm customers were impacted.

- a. N/A
- b. N/A
- c. N/A
- d. N/A

Name and title of responsible person: Adam Long, Vice President – Gas Operations

Name and title of preparer: Neil Moser, Director – Gas Engineering & Asset Planning

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