

**Piedmont Natural Gas, LLC
Docket No. M-100, Sub 163
Public Staff Data Request No. 2 –
Questions on Winter Storm Elliott
Date Sent: February 7, 2023
Requested Date Due: February 17, 2023**

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December 2022 cold weather event

13. Please provide a timeline beginning when the system started to experience storm related impacts through midnight December 26, 2022, in 15-minute increments, including but not limited to:

- a. For each interstate pipeline receipt point at the Company or the Company's city gates:
 - i. The expected and measured operating pressure, and
 - ii. The tolerance and low pressure set point at each receipt point.
- b. For each compressor station point:
 - i. The expected and measured operating pressure, and
 - ii. The tolerance and low pressure set point at each receipt point.
- c. At the meter and relay station (or equivalent) at each electric generation asset in North and South Carolina:
 - i. The expected and measured operating pressure, and
 - ii. The tolerance and low pressure set point at each receipt point.
- d. Any customer curtailment or outages that occurred.
 - i. If a process was put in place to curtail its interruptible customers during this time frame, please provide a discussion of the expected impact to existing gas supply and the Company's reserve margin.
 - ii. Volumes of gas bought (dts) and the respective gas price at zone 3 and 5 respectively as a response to tightened operating conditions for customers and to prevent outages or curtailments.
- e. General map or other locational guidance showing how the weather was impacting the Company's overall system.

Response:

- a. c. The Piedmont system did not experience storm-related impacts. However, please see the attachment provided herewith regarding the graphs that show expected pressures and actual pressures received into the Piedmont system, as well as the low pressure setpoints.
- d. Any customer curtailment or outages that occurred.

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i. There were no system impacts that necessitated an interruption or curtailment of gas service to Piedmont's customers.

ii. **[BEGIN CONFIDENTIAL]** [REDACTED]
[REDACTED]
[REDACTED]
• [REDACTED]
• [REDACTED]
[REDACTED]
[REDACTED] **[END CONFIDENTIAL]**

Please see the Company's response to PS DR 2-23, which outlines all volumes of gas purchased and the respective gas prices.

e. The Piedmont system did not experience storm related impacts. Please see the attachment provided herewith for the system map.

Name and title of responsible person:

- a. - c. Adam Long, Vice President - Gas Pipeline Operations
- d. Adam Long, Vice President - Gas Pipeline Operations and Todd Breece, Manager – Natural Gas Trading & Optimization and Managing Director – Gas Supply Optimization and Pipeline Services
- e. Adam Long, Vice President - Gas Pipeline Operations

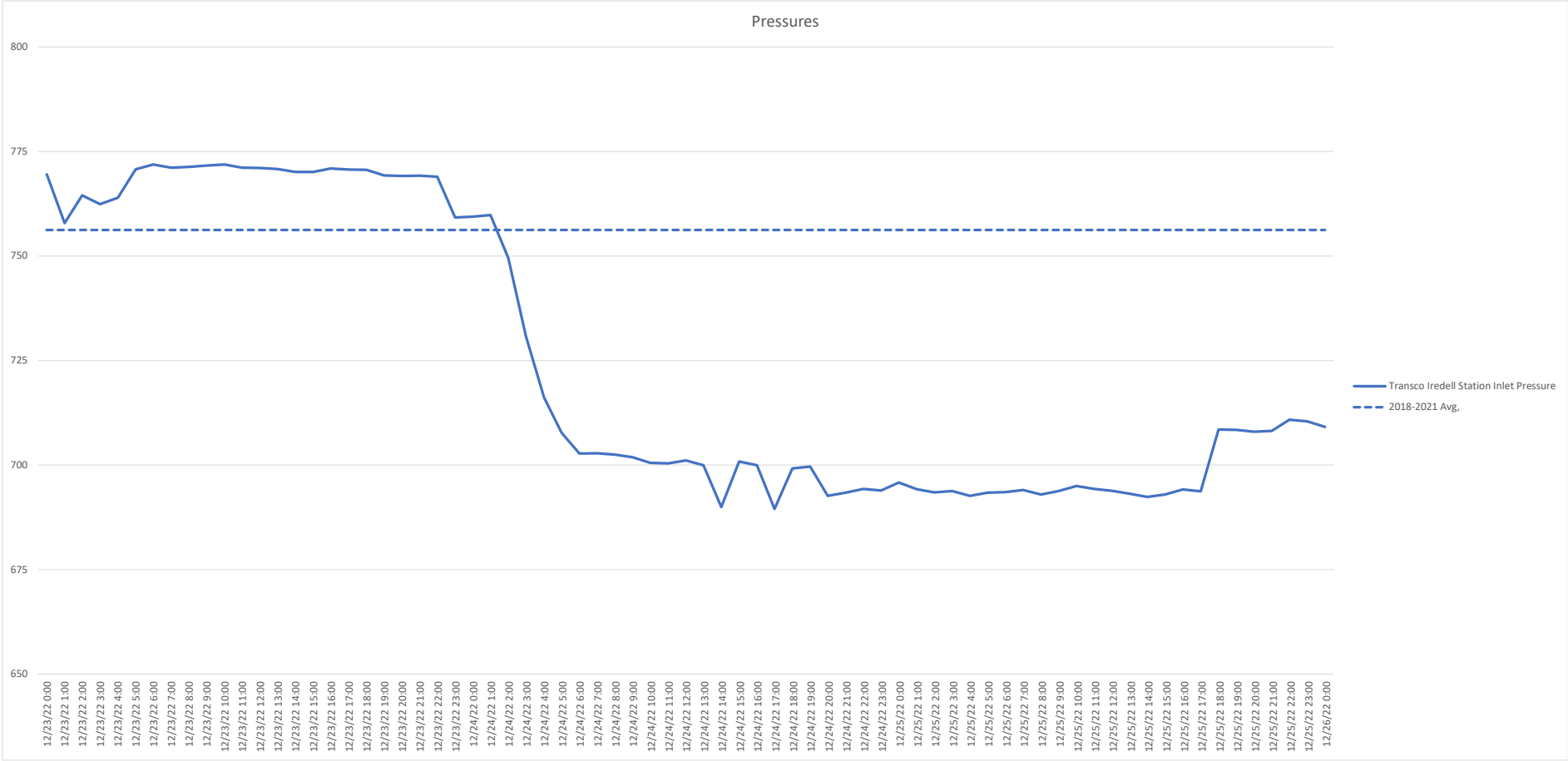
Name and title of preparer:

- a. - c. Andrew Donato, Manager – Gas Control
- d. Andrew Donato, Manager – Gas Control and James Manning, Senior Gas Trader
- e. Andrew Donato, Manager – Gas Control

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

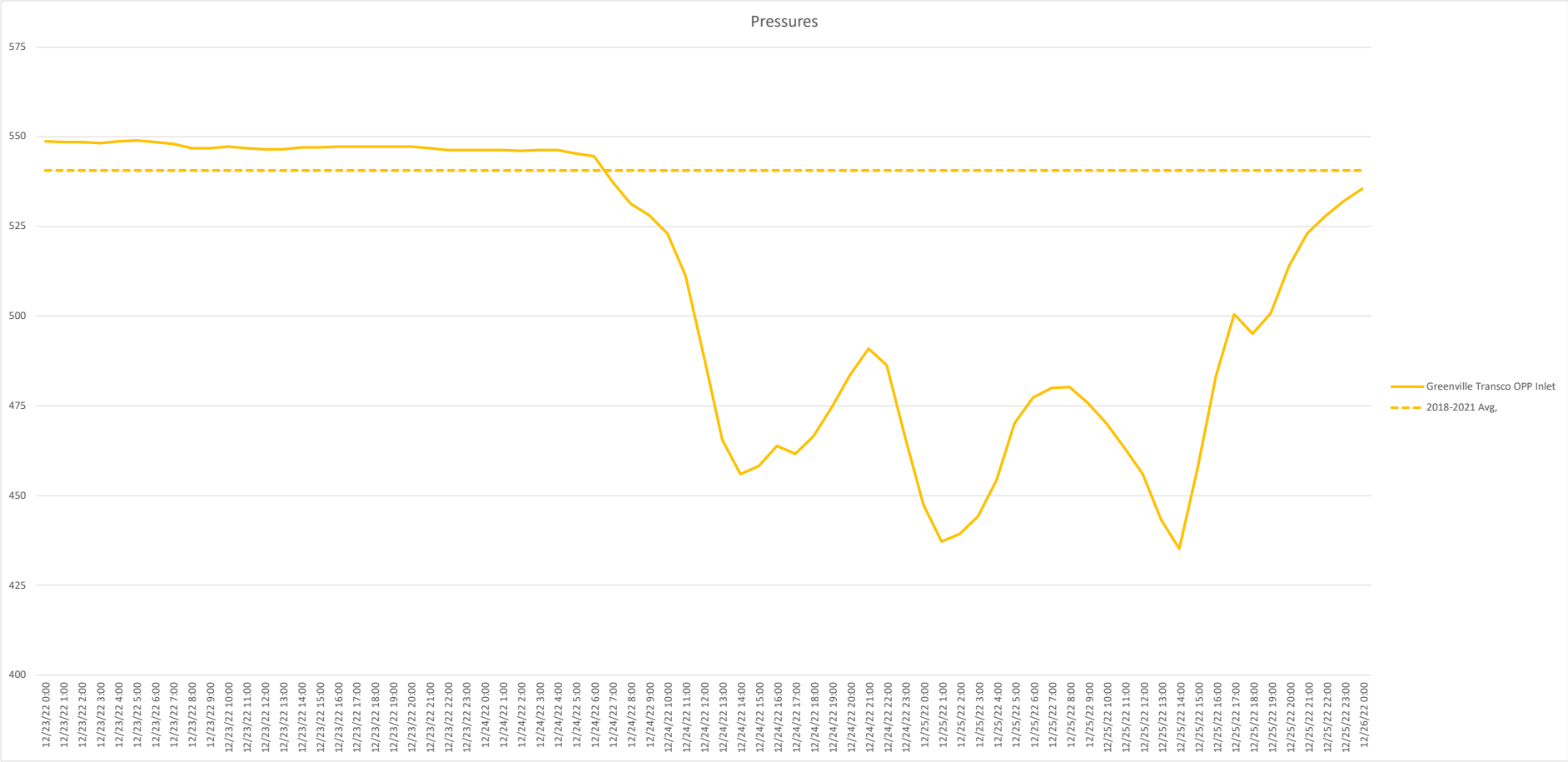
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Transco Iredell

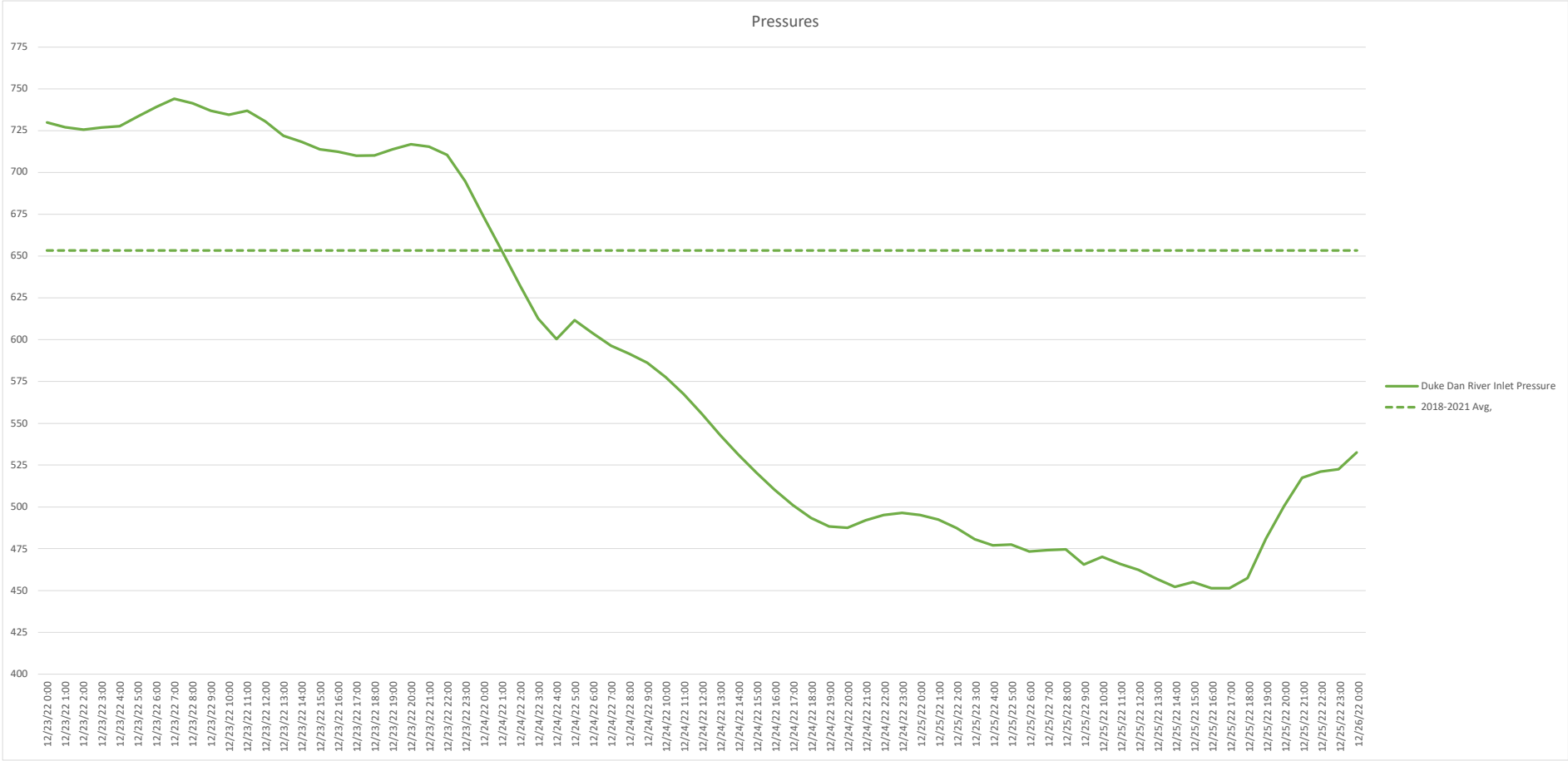


Greenville Transco

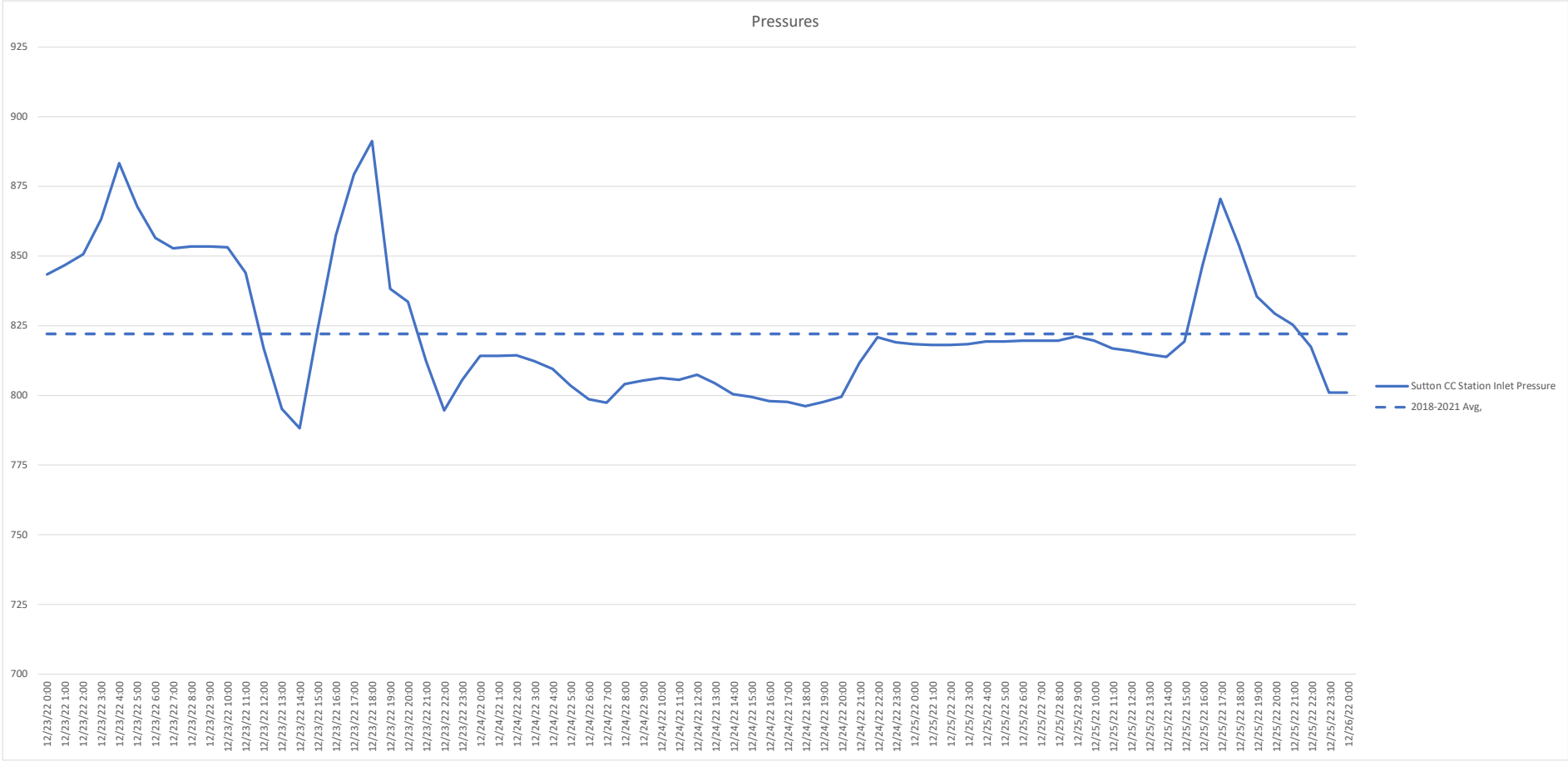
Pressures



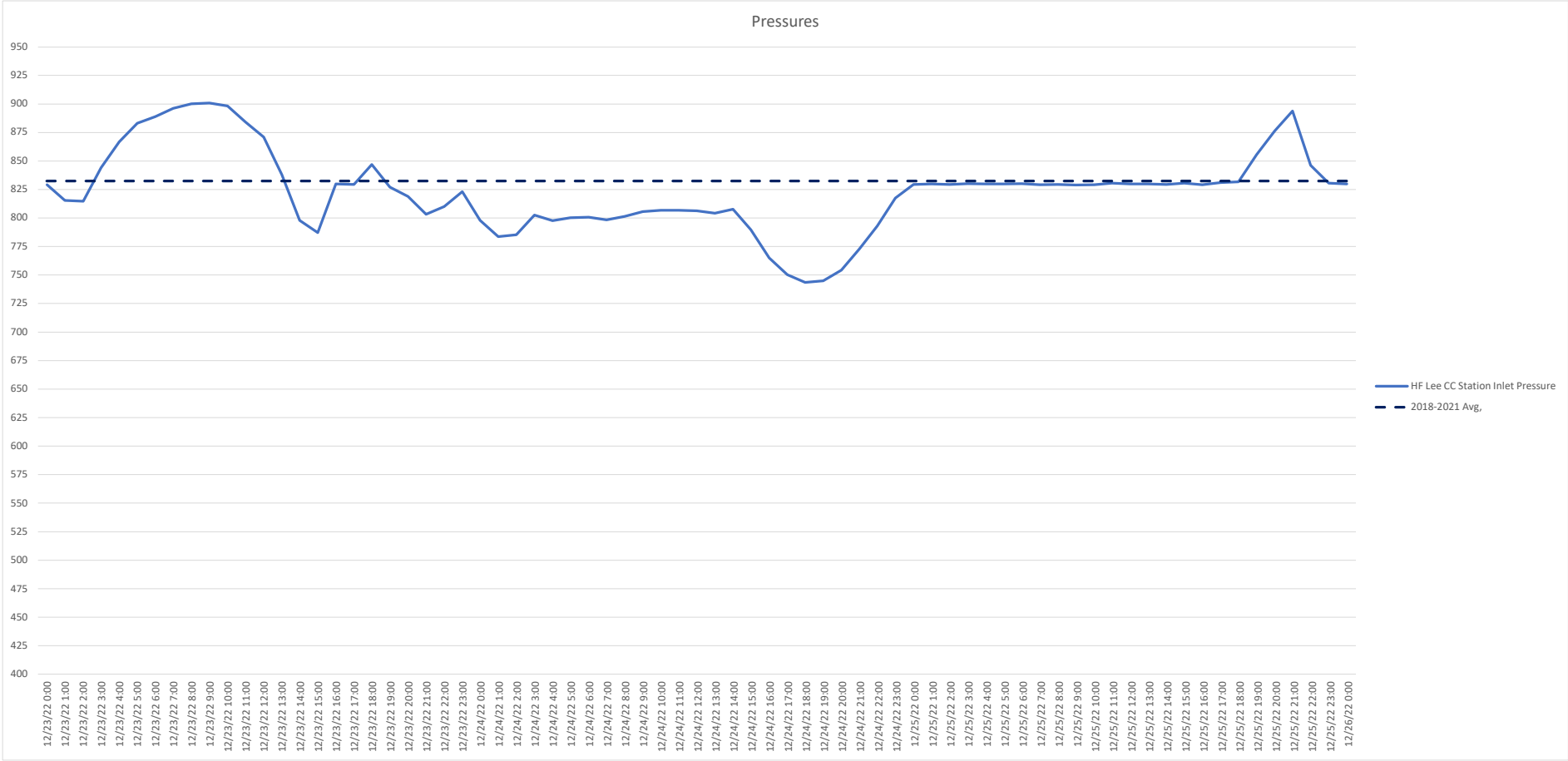
Dan River



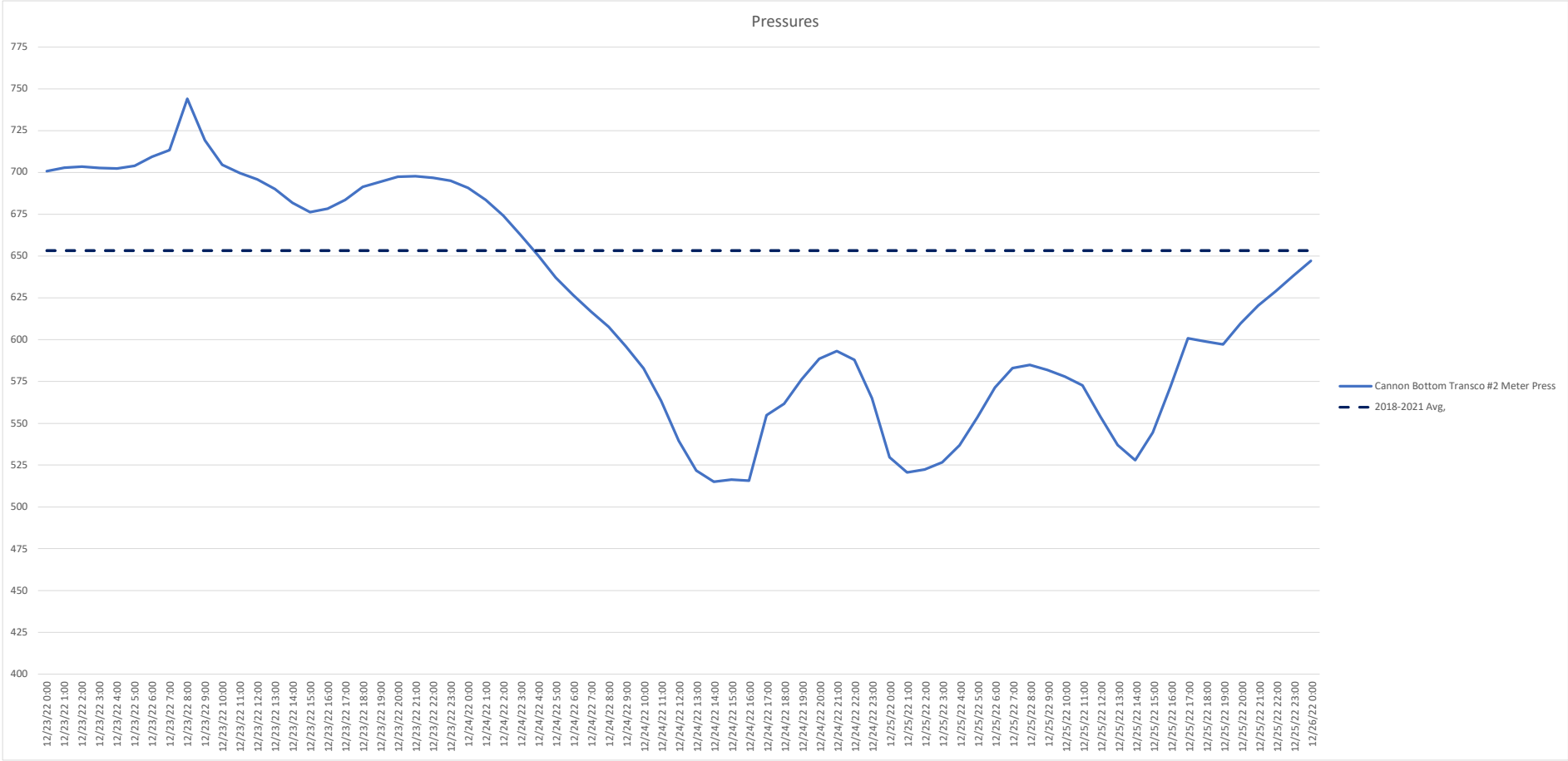
Sutton CC



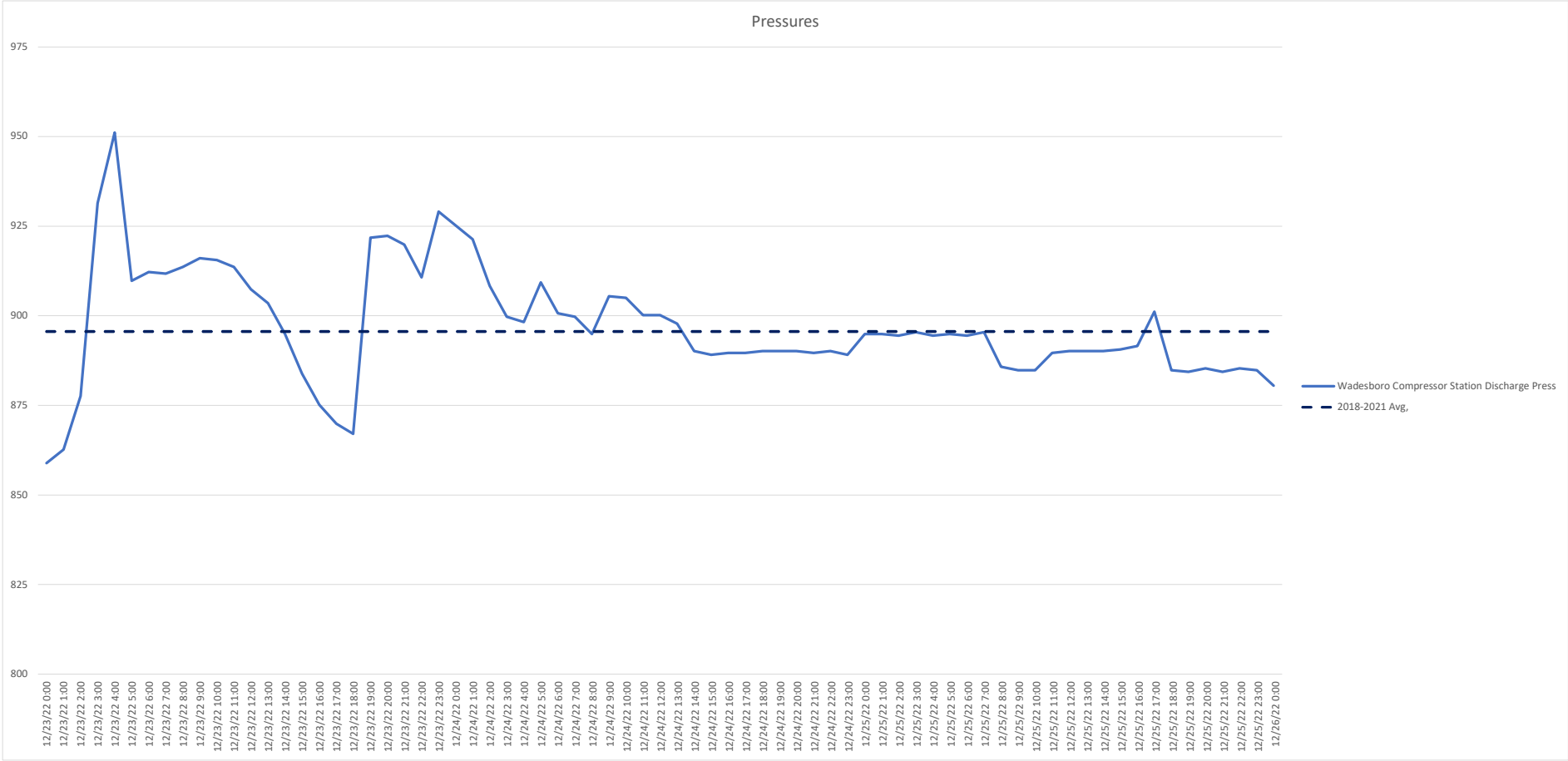
HF Lee CC



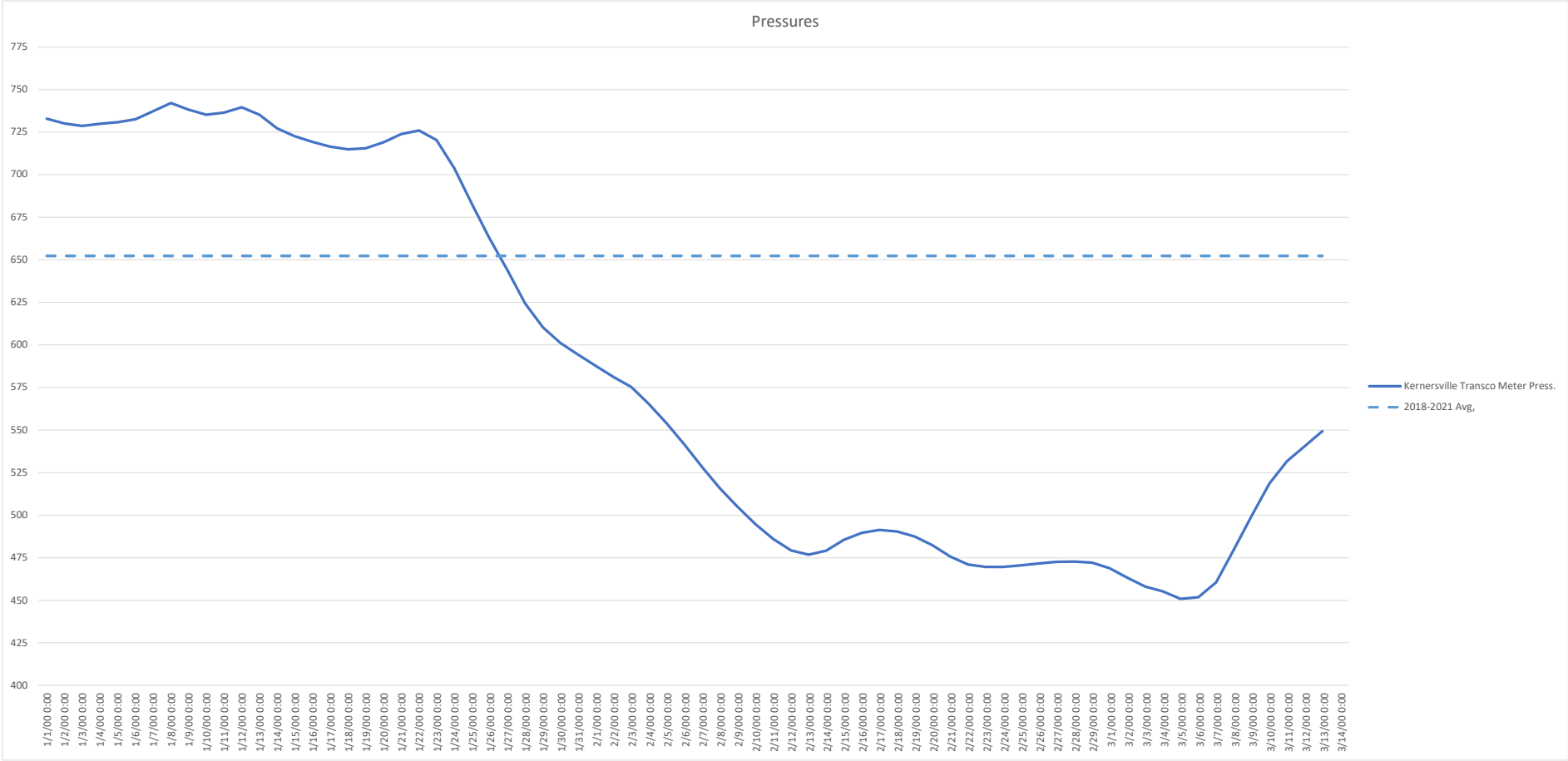
Cannon Bottom Rd



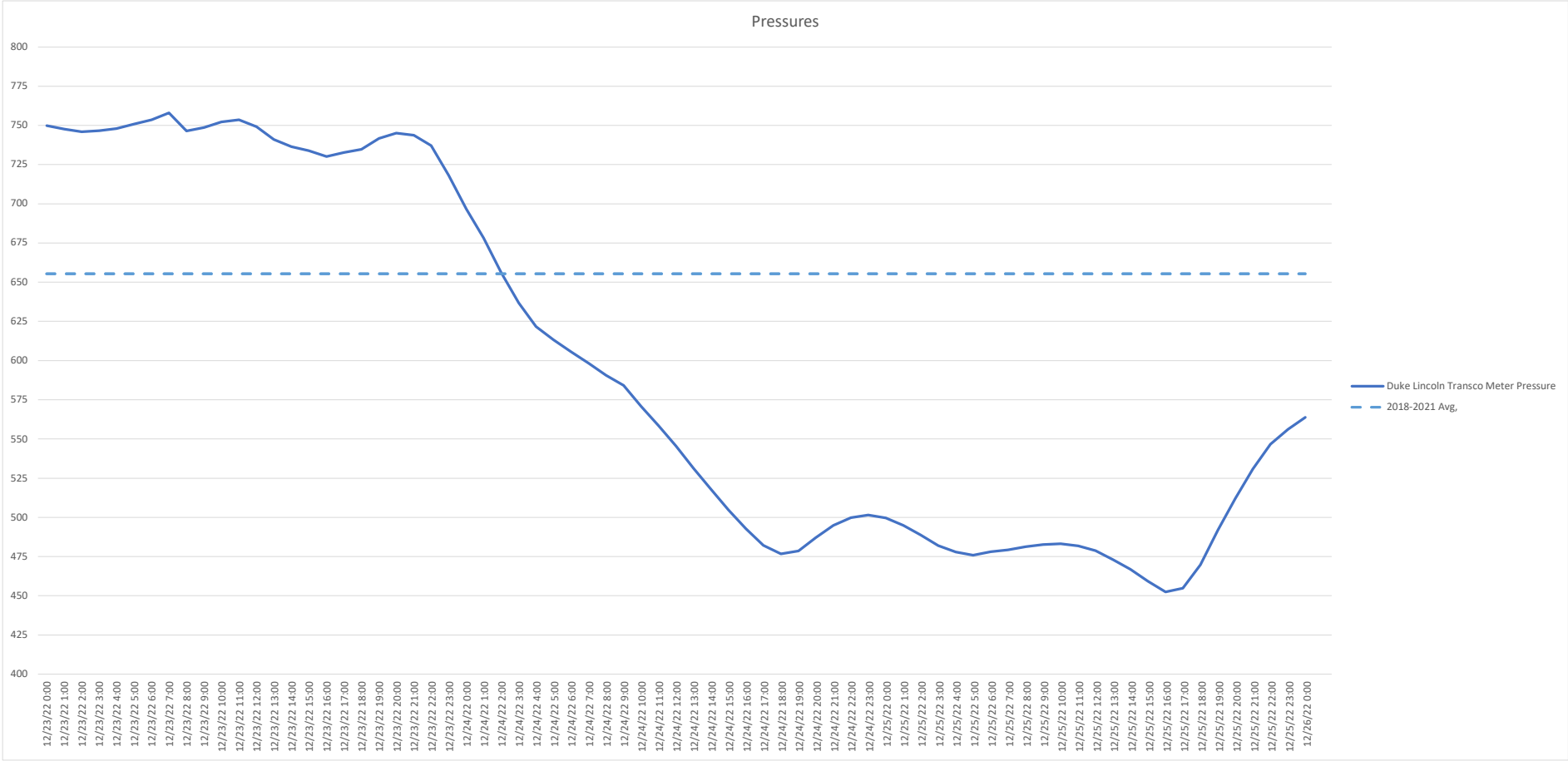
Wadesboro Compressor



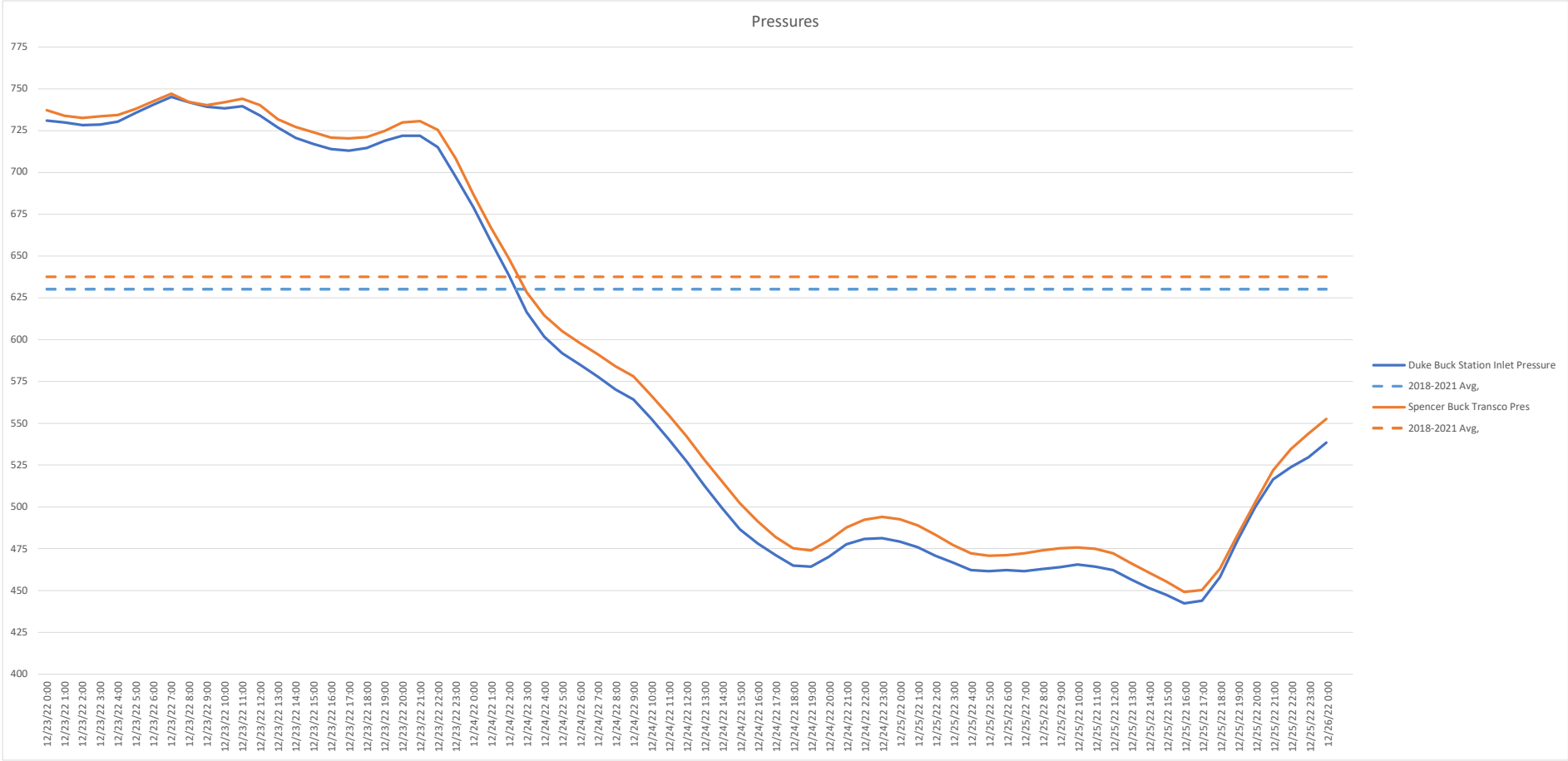
Kernersville Transco



Lincoln Transco



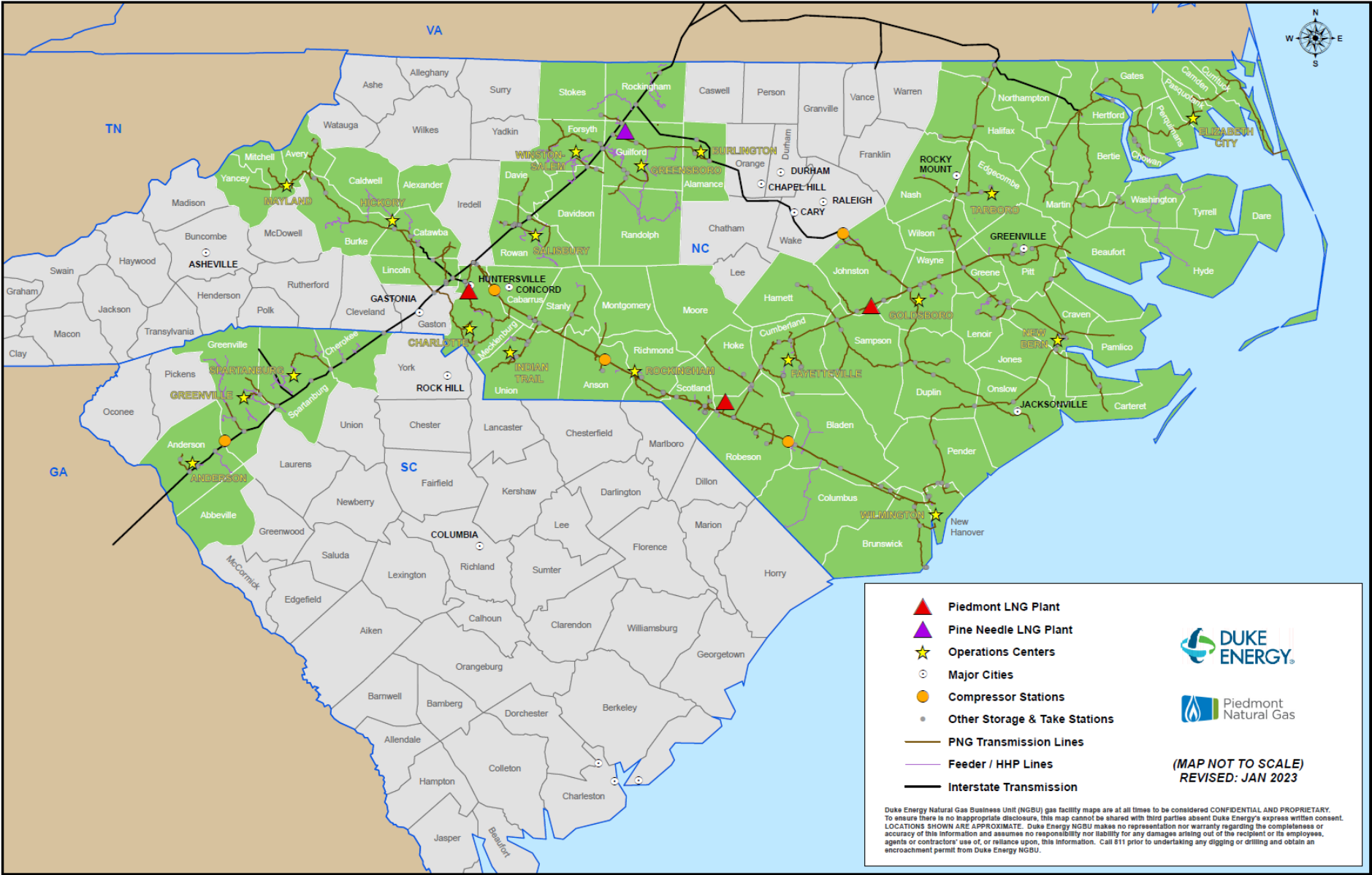
Duke Buck



Low Alarms

Location	Low Pressure Setpoint
Dan River Inlet Pressure	540
Spencer Buck Transco Pressure	550
Kernersville Transco Meter Pressure	500
Transco Iredell Station Inlet Pressure	600
Duke Lincoln Transco Meter Pressure	460
Greenville Transco OPP Inlet	400
Cannon Bottom Transco #2 Meter Pressure	450
Wadesboro Compressor Station Discharge Pressure	500
HF Lee CC Station Inlet Pressure	700
Sutton CC Station Inlet Pressure	700

Piedmont Overview – Carolinas



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13. Please identify the actual hourly demands observed for December 24, 2022. This response should include a timeline of the long-range load forecast, the seven-day ahead forecast, the three-day ahead forecast, and the day-ahead forecast showing the loads that the Company was anticipating prior to December 23, 2022, through December 28, 2022. In the Company's response, please distinguish between residential, commercial, and gas demand for electric generation.

Response: Please see the 2 CONFIDENTIAL attachments provided herewith.

CONFIDENTIAL attachment 1 of 2 includes the seven-day, three-day, and one-day ahead forecast. Please note that the Company does not forecast for power generation or differentiate between customer class when forecasting demand. The Company also does not create a separate long range forecast other than the Design Day schedule.

CONFIDENTIAL attachment 2 of 2 is the Company's Gas Month Report for December 2022, which includes Marquette's monthly forecast and shows the average, maximum, and minimum day. This file is used by the Company's Gas Trading personnel to prepare for the monthly baseload volumes.

Please see the Company's response to PS DR 2-14 for hourly demand for 12/24/2022.

Name and title of responsible person: Jeff Patton, Manager – Pipeline Services and Sarah Stabley, Managing Director – Gas Supply Optimization and Pipeline Services

Name and title of preparer: Joanna Greene, Lead Pipeline Forecast and Pipeline Services

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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PS DR 2-13 Attachments 1 and 2

Confidential Attachments Filed Under Seal

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14. Please provide graphs and supporting data (in working Excel files with working formulas intact) that illustrate the following: demand; LNG draws; gas storage; expected gas supply; and quantity of interrupted service or supply (if applicable) from December 23, 2022, through December 28, 2022, with Company service area specific information in as granular periods as possible, but no less than hourly. (Note: Individual graphs or a composite of graphs may be provided in response.)

Response: The Company did not have any interrupted pipeline transportation service for this period nor any other time in 2022. The Company saw a small cut of physical supply which had been purchased at Puddlefield on the Leidy Line in Transco Zone 6 in the amount of 20 dts on gas day 27. However, the Asset Manager kept the volume whole at Piedmont's City Gate. On gas day 28, there was a cut of 3,183 dts at Station 85 in Transco Zone 4. 2,309 dts were cut by the Company's supplier, Southwest, and 874 dts were cut by JP Morgan. None of the cut volumes were due to Force Majeure and all were considered "normal" cuts that the Company sees from time to time. Please see the Company's response to PS DR 2-15(c) and 2-15(d) for the expected supply. Please see the CONFIDENTIAL attachment provided herewith, which includes hourly takes and LNG withdrawals. The file also includes the daily storage withdrawals for each gas day as the Company does not have access to hourly takes from interstate storages.

Name and title of responsible person: Jeff Patton, Manager - Pipeline Services & Sarah Stabley; Managing Director – Gas Supply Optimization and Pipeline Services

Name and title of preparer: Joanna Greene, Lead Gas Forecasting and Pipeline Service

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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PS DR 2-14 Attachment

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15. For the period December 23, 2022, through December 26, 2022, please provide a general timeline in 15-minute increments showing changes in, but not limited to:

- a. Day ahead and hourly demand forecasts;
- b. Notifications (phone calls, emails, social media, etc.) to other utilities, gas suppliers, or other regulatory agencies;
- c. Gas purchases; gas sales; firm or interruptible purchases/sales;
- d. Fuel source availability notifications from fuel source suppliers or shippers of fuel constraints or fuel deliverability restrictions;
- e. Transmission system constraints;
- f. Gas conservation notifications to customers;
- g. Curtailment notification to interruptible customers;
- h. Operational Flow Order (OFO) notices from Transco or any other suppliers on the distribution system;
- i. OFO notices from Piedmont to its customers; and
- j. Any other information that would show how the Company was informed or provided information as the situation was unfolding.

Response:

- a. Please see the Company's CONFIDENTIAL 2-15(a) attachment provided herewith. **[BEGIN CONFIDENTIAL]**

[REDACTED]

[END CONFIDENTIAL]

- b. Please see the Company's CONFIDENTIAL 2-15(b) attachment provided herewith regarding the timeline for communications with other utilities and gas suppliers. Also, please see the Company's response to PS DR 2-24(f) for a timeline of communications and notification to North Carolina regulatory agencies.

- c. **[BEGIN CONFIDENTIAL]**

[REDACTED]

[REDACTED]

[REDACTED]

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- [REDACTED]
- | [REDACTED]
- | [REDACTED]
- | [REDACTED]

[REDACTED]

- | [REDACTED]
- | [REDACTED]
- | [REDACTED]
- | [REDACTED]
- | [REDACTED]

[REDACTED]

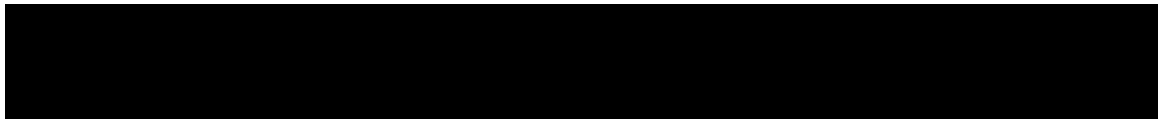
[REDACTED]

[REDACTED]

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[END CONFIDENTIAL]

- e. Piedmont did not experience transmission system constraints during this period.
- f. Piedmont did not issue or otherwise have need to issue any gas conservation notices to its customers during this period of time.
- g. No such customer notifications were issued by Piedmont during this period because Piedmont did not need to interrupt or curtail natural gas service to any customers during this weather event.
- h. and i. As background, please note that the gas industry does not segment the day into 15-minute increments, as done in the electric industry. Rather, the gas

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industry utilizes, for timing references, a gas day that is segmented across five standard NAESB gas scheduling cycles. Accordingly, Piedmont's response herein will provide a general timeline referencing the five standard NAESB nomination cycles, which are as follows:

1. Timely cycle (2pm ET, day prior to start of gas day);
2. Evening cycle (7pm ET, day prior to start of gas day);
3. Intraday 1 cycle (11am ET, 1 hour into gas day);
4. Intraday 2 cycle (3:30pm ET, 5.5 hours into gas day);
5. Intraday 3 cycle (8pm ET, 10 hours into gas day).

Timeline:

December 22nd – Timely (Gas Day 23)

- Transco - An Operational Flow Order (OFO) was in effect at this time on Transco in zones that impacted Piedmont. Transco initiated the OFO effective December 19th. The Notice 13208004 provided to Piedmont and other customers of this Transco OFO is shown in the Company's 2-15(h) attachment provided herewith.
- Columbia - An OFO was in effect at this time on Columbia in areas of their pipeline system that impacted Piedmont. Columbia initiated the OFO effective December 16th. The Notice 25856841 provided to Piedmont and other customers of this OFO is shown in the Company's 2-15(h) attachment provided herewith.
- Piedmont - An Operational Order for Piedmont's transportation customers and their suppliers – aka their gas brokers and third-party agents – was in effect at this time. Piedmont initiated the Operational Order effective December 19th. The Notice 20221216 to customers of Piedmont's Operational Order is shown in the Company's 2-15(h) attachment provided herewith.

December 22nd – Evening (Gas Day 23)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 23rd – Intraday 1 (Gas Day 23)

- Transco – no change from Timely
- Columbia – no change from Timely

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- Piedmont – no change from Timely

December 23rd – Timely (Gas Day 24)

- Transco - Their previously issued OFO was still in effect.
- Columbia - Their previously issued OFO was still in effect.
- Piedmont- The previously issued Operational Order was still in effect.

December 23rd – Intraday 2 (Gas Day 23)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 23rd – Evening (Gas Day 24)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 23rd – Intraday 3 (Gas Day 23)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 24th – Intraday 1 (Gas Day 24)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 24th – Timely (Gas Day 25)

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- Transco - Their previously issued OFO was still in effect.
- Columbia - Their previously issued OFO was still in effect.
- Piedmont- The previously issued Operational Order was still in effect.

December 24th – Intraday 2 (Gas Day 24)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 24th – Evening (Gas Day 25)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 24th – Intraday 3 (Gas Day 24)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 25th – Intraday 1 (Gas Day 25)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 25th – Timely (Gas Day 26)

- Transco - Their previously issued OFO was still in effect.
- Columbia - Their previously issued OFO was still in effect.
- Piedmont- The previously issued Operational Order was still in effect.

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December 25th – Intraday 2 (Gas Day 25)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 25th – Evening (Gas Day 26)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 25th – Intraday 3 (Gas Day 25)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 26th – Intraday 1 (Gas Day 26)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 26th – Timely (Gas Day 27)

- Transco - Their previously issued OFO was still in effect.
- Columbia - Their previously issued OFO was still in effect.
- Piedmont- The previously issued Operational Order was still in effect.

December 26th – Intraday 2 (Gas Day 26)

- Transco – no change from Timely
- Columbia – no change from Timely

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- Piedmont – no change from Timely

December 26th – Evening (Gas Day 27)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

December 26th – Intraday 3 (Gas Day 26)

- Transco – no change from Timely
- Columbia – no change from Timely
- Piedmont – no change from Timely

- j. Other such relevant information that was accessible and monitored by Piedmont during this time pertained to weather, such as publicly available NOAA weather updates and gas pipeline pressures. Regarding the latter, Piedmont monitored it's our own system pressures and flow rates from the Company's Control Room as the weather situation unfolded between December 23rd to December 26th. Please see the Company's response to PS DR 2-31 for system pressure timelines.

Name and title of responsible person:

- a. Jeff Patton, Manager – Pipeline Services and Sarah Stabley, Managing Director-- Gas Supply Optimization and Pipeline Services
- b. Adam Long, Vice President Gas Pipeline Operations and Pia Powers, Managing Director – Gas Rates & Regulatory
- c. Todd Breece, Manager – Natural Gas Trading & Optimization and Sarah Stabley, Managing Director – Gas Rates & Regulatory
- d. Todd Breece, Manager – Natural Gas Trading & Optimization and Sarah Stabley, Managing Director --Gas Rates & Regulatory
- e. Neil Moser, General Manager - Engineering, Planning, and Pipeline Integrity
- f. Adam Long, Vice President - Gas Pipeline Operations
- g. Neil Moser, General Manager - Engineering, Planning, and Pipeline Integrity

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- h. Sarah Stabley, Managing Director - Gas Supply Optimization and Pipeline Services
- i. Sarah Stabley, Managing Director - Gas Supply Optimization and Pipeline Services
- j. Adam Long, Vice President - Gas Pipeline Operations

Name and title of preparer:

- a. Alex Kosuda, Senior Transportation Pipeline Service Analyst
- b. Andrew Donato, Manager - Gas Control and Pia Powers, Managing Director - Gas Rates & Regulatory
- c. James Manning, Senior Gas Trader
- d. James Manning, Senior Gas Trader
- e. Neil Moser, General Manager—Engineering, Planning, and Pipeline Integrity
- f. Adam Long, Vice President - Gas Pipeline Operations
- g. Neil Moser, General Manager—Engineering, Planning, and Pipeline Integrity
- h. Brady Gould, Manager – Natural Gas Scheduling and City Gate Operations
- i. Brady Gould, Manager – Natural Gas Scheduling and City Gate Operations
- j. Adam Long, Vice President - Gas Pipeline Operations

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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PS DR 2-15(a) Attachment

Confidential Attachment Filed Under Seal

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PS DR 2-15(b) Attachment

Confidential Attachment Filed Under Seal

Query Notices

TSP: 006996219
TSP Name: PNG NCSC

Notice Identifier: COLD OFO STARTING MON DEC 19-20221216
Notice Stat Desc: Initiate
Notice Type Desc: Operational Flow Order
Notice Category: Critical
Critical Desc: Yes
Notice Scope: TSP SPECIFIC

Subject: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC
EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER
NOTICE

Posting Date/Time: 12/16/2022 09:19:49

Notice Eff Date/Time: 12/16/2022 00:15:00
Notice End Date/Time:

Reqrd Rsp Desc: No
Response Date/Time:

Prior Notice Identifier:
Superseded By: COLD OFO TERMINATED GD 29 -20221228

Notice Text:

TO ALL NORTH CAROLINA & SOUTH CAROLINA THIRD PARTY AGENTS AND CUSTOMERS:
PIEDMONT OPERATIONAL ORDER:

Due to colder temperatures and operational requirements on Piedmont's system, effective starting gas day December 19, 2022 until further notice. Customers and Third-Party Agents are required to maintain a daily short imbalance position of no greater than five (5%) percent or 1,000 dth, whichever is greater, of daily burns.

Any and all pools settling short positions greater than five (5%) percent or 1,000 dth, whichever is greater, of daily burns for days that the Short/Cold Operational Order is in effect will be considered not in compliance with this Operational Order.

Customers not complying with this Operational Order will be assessed all penalties and charges applicable to unauthorized under-run volumes as described under "Unauthorized Gas" in Piedmont's Rate Schedule 106 (NC) and Rate Schedule 206 (SC).

For any daily short imbalances greater than five (5%) percent or 1,000 dth, whichever is greater, such charges and penalties include per the tariff, a rate set forth on the Company's 'Rates and Charges' tariff sheet plus the higher of a daily and monthly commodity index price as described in the tariff in addition to your regular tariff charges under Rate Schedule 113 or 114 (Rate Schedule 213 or 214 for SC), as applicable.

In summary, Piedmont has issued a Short/Cold Operational Order only starting on gas day December 19th, 2022 until further notice.

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC

Public Staff Data Request No. 2-15(h,i)

Attachment 2 of 3

Page 1 of 2

Critical: Y
Notice Eff Date: 12/19/2022
Notice Eff Time: 09:00:00 CST
Notice End Date:
Notice End Time:
Notice ID: 13208004
Notice Stat Desc: Initiate
Notice Type Desc: OFO
Post Date: 12/16/2022
Post Time: 07:57:20 CST
Prior Notice: 0
Reqrd Rsp Desc: No response required
Rsp Date:
Rsp Time:
TSP: 007933021
TSP Name: TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC

Notice Text:

Subject: Operational Flow Order - Imbalance

Transco has provided notice of limited flexibility to manage imbalances and recommended shippers maintain a concurrent balance of receipts and deliveries. In order to ensure maintenance of line pack, maintain safe, efficient and reliable services, manage imbalances, and handle other within-the-day volatility Transco is issuing an Operational Flow Order (OFO) as indicated below.

Beginning Gas Day: **Monday,
December 19,
2022 9:00 AM CT**
Ending Gas Day: Until Further
Notice
OFO Area(s): Zone 4, 5, 6
Type of OFO: Imbalance
Type of Imbalance: **Due
From Shipper**
Transactions Include: Deliveries*
Beginning Cycle: Timely
Duration: Until Further
Notice
**Tolerance % Allowed
(or 1000 dth, Zone
whichever is
greater):** **Due
From Shipper
Zone 4, 5, 6 -
5%**

**Affected Shipper(s)
(DUNS #):*****

**Affected Location(s)
(DRN #/Loc
ID):****** All

OBA Subject to OFO: No

**If Yes, OBA
Parties (DUNS
#):*****

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* OFO based on all transactions with deliveries in affected OFO area.

**OFO based on all transactions with receipts in affected OFO area.

*** If specific DUNS #s have been identified, only imbalances created by those shippers/OBA parties will be subject to the OFO provisions.

****If specific DRN #/Loc ID's have been identified, only imbalances created at those location(s) will be subject to the OFO provisions.

This OFO is directed to shippers consistent with Section 52 of Transco's FERC Gas Tariff General Terms and Conditions with a minimum of \$50 per dt per day penalty. This OFO will continue until further notice. Buyers with imbalances greater than the allowed tolerance will be subject to penalties specified in Section 52 of Transco's FERC Gas Tariff General Terms and Conditions.

Additional information on Operational Flow Orders is available at this link:

http://www.1line.williams.com/Transco/files/training/Critical_Day.pdf

Please contact your Commercial Services Representative if you have any questions.

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TSP Name	Columbia Gas Transmission, LLC	TSP	054748041	Date		Time	
Notice ID	25856841	Notice Type Description:	Operational Flow Order	Post	12/15/22	7:04:05 AM	
		Notice Stat Desc:	Initiate	Notice Effective	12/15/22	12:00:00 AM	
		Prior Notice:		Notice End	01/15/23	12:00:00 AM	
		Critical:	Y				
		Reqrd Rsp Desc:	No Response Required	Response			

Subject: Operational Flow Order: Receipt Points in Market Areas 26, 30, 35, 41 & 42, Eff. December 16, 2022

Author: Ryan Rose

Notice Text

Pursuant to the provisions of Section 17 of the General Terms and Conditions of its FERC Gas Tariff, Columbia Gas Transmission, LLC ("TCO") is issuing an Operational Flow Order ("OFO") to Shippers under all transportation rate schedules with receipts in Market Areas 26, 30, 35, 41 and 42 to alleviate conditions which threaten the integrity of TCO's system and its ability to meet its firm service obligations.

As explained in Pre OFO (Notice ID 25856713), due to the level of high quantities of production received in Market Areas 26, 30, 35, 41 and 42, physical receipts must match or exceed scheduled receipts in order to provide reliable firm service across the TCO system. During the upcoming forecasted cold weather event, receipt points on TCO's system may experience operational issues that could result in a failure to deliver scheduled quantities. As a result, TCO is issuing this OFO to alleviate threats to its system integrity caused by underperformance at any receipt point in these marketing areas, preserve the operating performance of its pipeline system, and maintain pipeline operations at the pressures required to provide reliable firm services.

The terms of the OFO are as follows:

1. The Time and Date of Issuance of this OFO is Thursday, December 15, 2022, at 8:20 AM ET.
2. The OFO will become effective for the Gas Day Friday, December 16, 2022.
3. This OFO will continue in duration until Columbia issues further notice of termination of this OFO.
4. The Shippers impacted by this OFO are those scheduling receipts of gas in Market Areas 26, 30, 35, 41 and 42 whose physical receipts are not greater than or equal to their scheduled receipts during a Gas Day.
5. Pursuant to the OFO, the following actions must be taken:

During the period this OFO is in effect, receipt points must be balanced such that actual receipts into Market Areas 26, 30, 35, 41 and 42 must be greater than or equal to the scheduled receipt quantities into these areas, unless otherwise mutually agreed on a nondiscriminatory basis. Impacted shippers must align scheduled quantities with physical deliveries in Market Areas 26, 30, 35, 41 and 42 during each Gas Day, as more specifically set forth below, which may require communication with upstream operators. Shippers must remain in balance at the start of, and throughout, each Gas Day, beginning with Gas Day Friday, December 16, 2022, and until further notice. TCO will allow for a tolerance in aggregate volumes of 5% of scheduled receipt quantities or 5,000 Dth whichever is higher, which will be in effect throughout the duration of the OFO unless revised through an update to this notice. TCO will continue to monitor for underperformance and reserves the right to add additional market areas to this OFO as deemed necessary.

6. The justification for issuing the OFO is as set forth above.
7. Additional information: Shippers who do not comply with the terms of this OFO will be subject to penalties in accordance with Section 19.3 of TCO's FERC Gas Tariff, and/or an underperformance posting will be made with appropriate reductions to scheduled quantities to follow. Reductions will be made in the ID2 confirmation cycle based on EPSQ and rankings for the shortage for the current Gas Day, or any shortage from hours after the close of ID3 for the previous Gas Day. Shippers are encouraged to stay coordinated with upstream suppliers for changes in physical flow for the duration of the OFO.

If a penalty is assessed, the penalty will be based on all quantities in aggregate in violation of the OFO. Penalties will be based on the shipper's prorated share of the total underdelivered gas above the tolerance at the receipt point for that day at the higher of: 19.3(i) a price per Dth equal to three times the midpoint of the range of prices reported for "Columbia Gas, Appalachia" as published in Platts Gas Daily price survey for the days on which the OFO is issued, or 19.3(ii) a price per Dth equal to 150 percent of the highest midpoint posting for either: Mich Con City-gate, Transco, Zone 6 Non-N.Y., or Texas Eastern, M-2 Receipts as published in Platts Gas Daily price survey for the days on which the OFO is issued. Penalties under 19.3(ii) will only be assessed on days in which the daily spot price of gas exceeds three times the midpoint of the range of prices reported for "Columbia Gas, Appalachia."

Piedmont Natural Gas Company, Inc.

Docket No. M-100, Sub 163

Public Staff Data Request No. 2-15(h,i)

Please contact your Customer Services Representative with any questions.

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16. For the period December 23, 2022, through December 26, 2022, please provide a detailed list of the natural gas fueled generation units Duke Energy called on to operate/dispatch and how PNG performed with regards to gas supply and demand.

- a. Please provide any communications that occurred between the Company's interstate pipeline suppliers/storage, Duke Energy, and PNG regarding the pressure drop on the PNG system.

Response: Piedmont's transportation customers include the following Duke Energy plants located within Piedmont's North Carolina service territory: Sutton, Smith Energy Center, HF Lee, Wayne County, Lincoln, Buck, Belews Creek, Marshall, Dan River, and Rockingham. During this period, Piedmont had no operational issues that impaired or impeded Piedmont's ability to provide gas service to its customers, including such gas service to Piedmont's power generation customers. Communications between Duke Energy and Piedmont were Control Room to Control Room regarding supplier pressures at Dan River, Buck, and Rockingham. Such communications were the result of Duke's desired gas pressures from Transco for power generation not being met by Transco.

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

Name and title of preparer: Andrew Donato, Manager – Gas Control

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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17. In regard to gas supply system performance, customer curtailment, and demand exceeding predicted supply, provide dates and times of meetings, emails, discussions, and other communications in which decisions were made, as well as a list of all persons participating in decision making, including their job titles.

Response: Please see the information below:

December 16, 2022
Time 12:00-1:00 PM
Winter Operations Meeting

Attendees

Adam Long, Vice President - Gas Pipeline Operations
Brian Weisker, Senior Vice President - Chief Operating Officer
Sasha Weintraub, Senior Vice President and President, Natural Gas Business Unit
Sara Stabley, Managing Director Gas Supply Optimization & Pipeline Services
Neil Moser, General Manager Engineering, Planning & Pipeline Integrity
Steve Lisk, Director NG Engineering - System Planning
Andrew Donato, Manager Gas Control
Amy Presson, Vice President - Major Projects
Melton Huey, Director Gas Asset Risk Management
Alan Henderson, Director Technical Field Operations
Ryan Smith, Director LNG and Compression

Additional leadership system status meetings during the event:

12/20: 1200
12/24: 0800, 1300, 2000,
12/25: 0900 and 2000

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

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

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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18. Please provide the following unit outage information:

- a. A list of PNG assets that were known to be unavailable going into December 23, 2022.
- b. A list of PNG assets that were expected to be online or available but failed or failed to respond when called upon from December 23, 2022, through December 28, 2022.
- c. A list of PNG assets that underperformed or were constrained (gas supply below expected output) from December 23, 2022, through December 28, 2022.
 - i. A list of the amount of constrained natural gas in dts, and the dates and hours impacted for each component and/or gas purchase.

Response:

- a. None
- b. None
- c. None

Name and title of responsible person: Todd Breece, Manager - Natural Gas Trading & Optimization

Name and title of preparer: James Manning, Senior Gas Trader

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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19. For all units/resources/programs that failed to perform, perform as expected, or perform at full nameplate potential from December 23, 2022, through December 28, 2022, please provide:

- a. The time at which they failed/underperformed;
- b. Period of time associated therewith;
- c. The root cause (or most likely suspected cause) of the failed/underperforming asset;
- d. Amount of lost gas supply at each component; and
- e. Steps taken to mitigate such issues.

Response: N/A. All assets performed as expected.

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

Name and title of preparer: Ryan Smith, Director - LNG and Compression

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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20. Regarding gas supply from December 23, 2022, through December 28, 2022, please describe the Company's understanding of the status of the natural gas supply and any potential impacts on its operation before and during the event period for:

- a. Transco;
- b. Other interstate pipeline/storage providers and suppliers/marketers.

Response:

- a. The Company was aware of an Operational Flow Order (OFO) in effect on Transco during this period of time. The Company's understanding of the OFO in effect was that the Company would be permitted to use up to 5% more gas than the Company brought to its City Gate, with no financial repercussions. Through examination of the Company's inventory in storages, pipeline capacity, and LNG availability, it was determined that the Company would have ample supply to meet customer demand on Transco. While the OFO on Transco limited the ability to take gas off their pipeline, without bringing in supply to meet the off-take, it did not limit the Company's ability to use each of the transportation, storage, and/or LNG assets in place to meet the responsibility of serving customers.
- b. The Company was also aware of an OFO in effect on Columbia Gas Transmission during this period of time. Effective gas day 12/23/2022, the tolerance on Columbia was reduced to 2% of scheduled receipt quantities or 2,000 dth, whichever was higher. The morning of 12/24/22 at 10:33 AM EST, the Company received a notice from Columbia of an update to their OFO, due to extreme cold temperatures and underperformance events impacting the Market Areas. The notice alerted the shippers that underperformance would be met with "Reductions will be made in the ID1 confirmation cycle based on EPSQ and rankings for the shortage for the current Gas Day, or any shortage from hours after the close of ID3 for the previous Gas Day." As the extreme cold continued, Columbia continued to have operational challenges. At 7:30 PM EST, 12/24/22, Columbia issued a Force Majeure notification due to "Widespread Underperformance – Operational Challenges" to notify customers of "widespread underperformance events from receipt point operators across the [Columbia] system due to freezing of production wells. [Columbia] is actively coordinating with upstream operators to reduce nominations to align with physical flow. However, these underperformance events have created operational challenges including reduced pressures and line pack levels which could create an inability to serve." The Company is aware that OFOs impacting other pipelines are likely to be in place during a cold weather event the magnitude

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of Winter Storm Elliott. The OFOs present on pipelines feeding into Transco would prevent suppliers/marketers from “shorting” those pipelines to keep more gas on Transco.

Name and title of responsible person: Todd Breece, Manager – Natural Gas Trading & Optimization and Sarah Stabley, Managing Director – Gas Supply Optimization and Pipeline Services

Name and title of preparer: James Manning, Senior Gas Trader

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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21. Please provide a detailed discussion regarding when the Company received notifications from its interstate pipeline/storage provider, suppliers/marketers, etc., of potential natural gas supply or pressure issues.

- a. Please provide a general timeline of the notifications and what the Company did in reaction to the notifications.
- b. Please list how the notifications were issued to the Company and the timeframe for each.
- c. Please provide a list of all the mitigating actions required due to loss of pressure on Transco's system.
- d. Did the Company inquire about potential spot or Z5 purchases?

Response: Piedmont did not receive any formal notification from its interstate pipeline/storage provider, nor from its suppliers/marketers, etc. because no pressure guarantees or obligations were impacted, and no suppliers failed to deliver gas.

- a. All such communication during this event with Transco was from the Piedmont Control Room to the Transco Control Room via phone calls on a periodic basis as Piedmont monitored pressure. There were no mitigating actions required as no pressure or flow obligations were violated.
- b. N/A. There were no such notifications to Piedmont from Transco or from Piedmont's suppliers.
- c. N/A. There were no mitigating actions required as no pressure or flow obligations were violated.
- d. [BEGIN CONFIDENTIAL]

[REDACTED] [END
CONFIDENTIAL]

Name and title of responsible person:

- a. Adam Long, Vice President - Gas Pipeline Operations
- b. Adam Long, Vice President - Gas Pipeline Operations

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- c. Adam Long, Vice President - Gas Pipeline Operations
- d. Todd Breece, Manager - Natural Gas Trading & Optimization and Sarah Stabley, Managing Director - Gas Supply Optimization and Pipeline Services

Name and title of preparer:

- a. Andrew Donato, Manager - Gas Control
- b. Andrew Donato, Manager - Gas Control
- c. Andrew Donato, Manager - Gas Control
- d. James Manning, Senior Gas Trader

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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22. Please discuss how the Company provided its customers, including electric generation customers, notification of impending gas supply issues or curtailment.

Response: No such notifications were provided to Piedmont's customers because there were no impending gas supply issues to Piedmont's system that would negatively impact Piedmont's customers, nor were there any impending interruptions or curtailments to gas service for Piedmont's customers.

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

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

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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23. Please provide the commodity prices being used during this period, along with supporting information from source data (values should be expressed in \$/dts).

Response: Please see the CONFIDENTIAL attachment provided herewith.

Commodity prices being used during this period were Gas Daily index prices, Inside FERC (IFERC) First of the Month index prices, fixed prices, and baseload prices which were calculated using New York Mercantile Exchange (NYMEX) and IFERC First of the Month index prices.

The indices referenced for purchase transactions from the publication were:

- Transco, zone 1 (Platts, Gas Daily)
- Transco, zone 3 (Platts, Gas Daily and IFERC's Gas Market Report)
- Transco, zone 4 (Platts, Gas Daily)
- Texas Eastern, ELA (Platts, Gas Daily)
- Chicago city-gates (Platts, Gas Daily)
- Transco, zone 6 non-N.Y. North (Platts, Gas Daily)
- Columbia Gas, App. (Platts, Gas Daily)
- Transco, Leidy Line receipts (Platts, IFERC's Gas Market Report)
- NYMEX Henry Hub gas futures contract closings, Nov 28 - Dec 2022 Close (Platts, Gas Daily)
- Sale transactions were executed at fixed prices, as well as index prices. The index price used for sales was Transco, Zone 5 del. South (Platts, Gas Daily).

Please note that approval from S&P Global Platts is required before the Company is permitted to share the applicable indices published by Platts. Such approval would be accomplished by the NC Public Staff signing a Confidentiality Agreement with S&P Global Platts.

Name and title of responsible person: Todd Breece, Manager - Natural Gas Trading & Optimization and Sarah Stabley, Managing Director - Gas Supply Optimization and Pipeline Services

Name and title of preparer: James Manning, Senior Gas Trader

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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PS DR 2-23 Attachment

Confidential Attachment Filed Under Seal

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24. In regard to potential load curtailment, please provide:
- a. A general narrative (or any written procedures) that describe the Company's process for determining when to begin its process for potential curtailments.
 - b. A description of how close the Company was to potentially performing curtailments to maintain system reliability.
 - i. Was curtailment the next feasible action to be taken at any point during from December 22, 2022, through December 28, 2022? If so, list each time this was so.
 - c. A discussion of how a system operator determines that a curtailment is needed and the process by which the operator selects the customers to curtail and outage durations.
 - d. A description of the process for notifying customers prior to curtailment.
 - e. A discussion and copies of any mass communications provided to customers regarding gas conservation and potential curtailment events.
 - f. A discussion and copies of all communications the Company had with the NCUC and NC Public Staff:
 - i. Prior to event.
 - ii. Real time during event.
 - iii. Subsequent to event, through December 28, 2022.

Response:

- a. The two primary factors that Piedmont considers in determining if an interruption of gas service to some or all of its interruptible customers is warranted, are as follows:
 1. The availability of gas supply to the system;
 2. The system hydraulic capacity to deliver available gas supply at acceptable pressures from Piedmont's City Gate interconnection points to Piedmont's customer meters.

Specifically, Piedmont's gas supply, operations, and engineering personnel monitor customer gas usage, gas supply status and the weather outlook to assess (i.e., to forecast) the potential need for initiating an interruption of gas service to Piedmont's interruptible customers. This assessment is performed using Piedmont system modeling and real-time gas system pressure and flow information.

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Regarding factor number one listed above, in the event that Piedmont identifies that there will likely be insufficient gas supply to demand in the near term (i.e., demand in the upcoming days and/or hours ahead) by Piedmont's interruptible class of customers, Piedmont would accordingly initiate an interruption of service to customers in that class.

Regarding factor number two listed above, prior to and during high gas demand periods, Piedmont's system planning personnel utilize hydraulic modeling to evaluate potential interruptions of service while monitoring the system's performance throughout the duration of the event. If Piedmont's system modeling personnel predict unacceptably low system pressures based on forecasted weather conditions or that the system is constrained and pressures will approach critical lows, Piedmont would accordingly initiate an interruption of service to its interruptible customers.

- b. During Winter Storm Elliott, temperatures in Piedmont's service territory approached ranges where Piedmont has at times before initiated an interruption of gas service to its interruptible customers. However, Winter Storm Elliott occurred over a weekend and holiday period, which mitigated some of the gas demand that would have otherwise been experienced on Piedmont's system under those weather conditions.
 - i. Piedmont's system conditions did not reach the point, on a forecasted or actuals basis, where initiation of an interruption of service to interruptible customers was warranted. If temperatures had continued to fall and if system demands increased, Piedmont would have been closer to considering interrupting service to its interruptible customers, depending on the conditions and location of the predicted system constraints.
- c. Please see the Company's response to subpart (a) of this data request item for a discussion of how Piedmont determines that an interruption of service is warranted. When an interruption of service to customers is warranted, determining which specific interruptible customers to interrupt is based on the physical location impacting system performance and the margin rate applicable to the customer.
- d. Please see the Company's response to PS DR 2-8.
- e. No communications were needed, provided, or sent by Piedmont.
- f. Please see the following timeline of such communications through December 28, 2022, and five (5) referenced attachments herein.

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- Friday, December 16, 2022 @ 10:16am: Piedmont provided notification via email to members of the NC Public Staff that Piedmont had issued an Operational Order in the Carolinas effective with the beginning of gas day Monday December 19, 2022. This Operational Order pertains to specific balancing requirements upon Piedmont's transportation customers and their agents. For North Carolina, this pertains to Piedmont's customers served under Rate Schedule 113 and 114, or related special contracts. (See attachment labeled "NC Public Staff communications-1")
- Wednesday, December 21, 2022 @ 11:46am: Piedmont provided notification via email members of the NC Public Staff that the Piedmont's Operational Order effective Monday December 19th was still in effect until further notice. (See attachment labeled "NC Public Staff communications-1")
- Wednesday, December 21, 2022 @ 11:55am: Piedmont provided notification via email to members of the NC Public Staff that Piedmont was not forecasting the need to interrupt or curtail natural gas service to any of its North Carolina customers during this cold weather event, and that Piedmont would continue to monitor this matter. (See attachment labeled "NC Public Staff communications-1")
- Wednesday, December 21, 2022 @ 1:27pm: Piedmont provided notification via email to a member of the NCUC that Piedmont was not forecasting the need to interrupt or curtail natural gas service to any of its North Carolina customers during this cold weather event, and that Piedmont would continue to monitor this matter. (See attachment labeled "NCUC communications-1")
- Thursday, December 22, 2022 @ 3:03pm: Piedmont received a question via email from a member of the NC Public Staff pertaining to Piedmont's gas service interruption plans. (See attachment labeled "NC Public Staff communications-2")
- Thursday, December 22, 2022 @ 3:13pm: Piedmont responded via email to the NC Public Staff's question pertaining to Piedmont's gas service interruption plans. (See attachment labeled "NC Public Staff communications-2")
- Saturday, December 24, mid-day through the morning of Dec 25: The NC Public Staff Executive Director inquired to Piedmont via text if Piedmont had interrupted gas service or anticipated the need to interrupt gas service during this weather event to any of its customers including power generation customers. Various texts were exchanged and one phone call occurred, whereby Piedmont communicated the ongoing status of its service to customers and its overall gas system operations, including the status of gas receipts/pressure from Transco. In summary, the communications from Piedmont explained that Piedmont's system

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performed as expected, and accordingly Piedmont did not need to interrupt service to any of its customers. (The text communications were not accessible to be attached herein)

- Saturday, December 24, 2022, mid-afternoon through the morning of Dec 25, 2022: The NCUC Chair inquired to Piedmont, via text and a subsequent phone conversation, about whether or not Piedmont had interrupted gas service or anticipated the need to interrupt gas service during this weather event to any of its customers including power generation customers. Various texts were subsequently exchanged whereby Piedmont communicated the ongoing status of its service to customers and its overall gas system operations including the status of gas receipts/pressure from Transco. In summary, the communications from Piedmont explained that Piedmont's system performed as expected, and accordingly Piedmont did not need to interrupt service to any of its customers. (See attachment labeled "NCUC communications-2")
- Wednesday, December 28, 2022 @ 8:37am: Piedmont provided notification via email to members of the NC Public Staff that Piedmont's Operational Order was being lifted effective the following day. (See attachment labeled "NC Public Staff communications-3")

Name and title of responsible person:

- a. c. Neil Moser, GM Engineering, Planning and Pipeline Integrity
- d. f. Adam Long, Vice President - Gas Pipeline Operations, and Pia Powers, Managing Director - Gas Rates & Regulatory

Name and title of preparer:

- a. c. Steve Lisk, Director - Natural Gas Engineering
- d. f. Andrew Donato, Manager - Gas Control and Pia Powers, Managing Director - Gas Rates & Regulatory

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

Powers, Pia K

From: Powers, Pia K
Sent: Wednesday, December 21, 2022 11:55 AM
To: Mclawhorn, James; Patel, Neha; Nader, Jordan A; Boswell, Michelle; Johnson, Sonja; Johnson, Sonja
Cc: Hager, Laura M.; PiedmontRegulatory
Subject: RE: [External] FW: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER NOTICE

James, Michelle and teams,

I'll use this opportunity to also update you about another cold-weather related matter for Piedmont: the potential for interruption and/or curtailment of gas service to Piedmont's customers. Piedmont continues to monitor its system's ability to deliver gas to firm and interruptible customers notably during this weekend's anticipated cold weather event across the region. At this time, Piedmont does not forecast the need to interrupt or curtail natural gas service to any of its North Carolina customers during this cold weather event. Should circumstances in this regard change, I will keep you informed.

Thank you. And I hope that you all have a safe and enjoyable holiday season.

Pia

Pia Powers (she/her) | Managing Director of Gas Rates & Regulatory
4720 Piedmont Row Drive | Charlotte, NC 28210 | 📞 Mobile/Text: 704.249.6685
Pia.Powers@Duke-Energy.com



From: Mclawhorn, James <james.mclawhorn@psncuc.nc.gov>
Sent: Wednesday, December 21, 2022 11:51 AM
To: Hager, Laura M. <Laura.Hager@duke-energy.com>; Nader, Jordan A <jordan.nader@psncuc.nc.gov>; Boswell, Michelle <michelle.boswell@psncuc.nc.gov>
Cc: Powers, Pia K <Pia.Powers@duke-energy.com>
Subject: RE: [External] FW: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER NOTICE

***** CAUTION! EXTERNAL SENDER *** STOP. ASSESS. VERIFY!!** Were you expecting this email? Are grammar and spelling correct? Does the content make sense? Can you verify the sender? If suspicious report it, then do not click links, open attachments or enter your ID or password.

Thank you, Laura and Pia. I think this approach is best.

James

James S. McLawhorn
Director, Energy Division
Public Staff – North Carolina Utilities Commission
430 N. Salisbury Street, Suite 5018
4326 Mail Service Center
Raleigh, NC 27699-4300
(919) 733-2267
[Electric Section](#)
[Natural Gas Section](#)



Email correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.

From: Hager, Laura M. <Laura.Hager@duke-energy.com>

Sent: Wednesday, December 21, 2022 11:45 AM

To: Nader, Jordan A <jordan.nader@psncuc.nc.gov>; Boswell, Michelle <michelle.boswell@psncuc.nc.gov>; McLawhorn, James <james.mclawhorn@psncuc.nc.gov>

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Public Staff Data Request No. 2-24f Attachment 1 of 5

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Cc: Powers, Pia K <Pia.Powers@duke-energy.com>

Subject: [External] FW: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER NOTICE

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

Piedmont has historically sent these notification emails to one member of the Public Staff Energy Division (currently Neha) and one member of the Accounting division (currently Sonja). Pia and I discussed today that it may be helpful to include other individuals to ensure complete communication with Public Staff given holiday and vacation schedules.

I am forwarding you this notification that was sent to Neha and Sonja regarding an Operational Order that went into effect this past Monday December 19, 2022. Going forward I will include you on these emails as well as the email I send when an operational order is lifted.

This OFO is currently still in effect.

From: Hager, Laura M.

Sent: Friday, December 16, 2022 10:13 AM

To: Patel, Neha <neha.patel@psncuc.nc.gov>; sonja.johnson@psncuc.nc.gov

Cc: Powers, Pia K <Pia.Powers@duke-energy.com>; Couzens, Kally <Kally.Couzens@duke-energy.com>; King, Mandi J. <Mandi.King@duke-energy.com>;

PiedmontRegulatory <PiedmontRegulatory@duke-energy.com>

Subject: FW: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER NOTICE

Neha and Sonja – Piedmont has issued an Operational Order in the Carolinas effective with the beginning of gas day Monday December 19, 2022. I am forwarding the notification email below for your information.

From: Hargrove, Nathan D <Nathan.Hargrove@duke-energy.com>

Sent: Friday, December 16, 2022 9:54 AM

Subject: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER NOTICE

TO ALL NORTH CAROLINA & SOUTH CAROLINA THIRD PARTY AGENTS AND CUSTOMERS:
PIEDMONT OPERATIONAL ORDER:

Due to colder temperatures and operational requirements on Piedmont's system, effective starting gas day December 19, 2022 until further notice. Customers and Third-Party Agents are required to maintain a daily short imbalance position of no greater than five (5%) percent or 1,000 dth, whichever is greater, of daily burns. Any and all pools settling short positions greater than five (5%) percent or 1,000 dth, whichever is greater, of daily burns for days that the Short/Cold Operational Order is in effect will be considered not in compliance with this Operational Order.

Customers not complying with this Operational Order will be assessed all penalties and charges applicable to unauthorized under-run volumes as described under "Unauthorized Gas" in Piedmont's Rate Schedule 106 (NC) and Rate Schedule 206 (SC).

For any daily short imbalances greater than five (5%) percent or 1,000 dth, whichever is greater, such charges and penalties include per the tariff, a rate set forth on the Company's 'Rates and Charges' tariff sheet plus the higher of a daily and monthly commodity index price as described in the tariff in addition to your regular tariff charges under Rate Schedule 113 or 114 (Rate Schedule 213 or 214 for SC), as applicable.
In summary, Piedmont has issued a Short/Cold Operational Order only starting on gas day December 19th, 2022 until further notice.

Nate Hargrove

Gas Transportation Market Analyst

704.731.4151

nathan.hargrove@duke-energy.com



Powers, Pia K

From: Powers, Pia K
Sent: Wednesday, December 21, 2022 1:27 PM
To: Jayasheela, Poornima
Subject: cold weather event this weekend

Poornima,

Just a quick note regarding this weekend's cold weather event across the region, since this kind of weather front typically has us all especially attuned to the potential for interruption and/or curtailment of gas service to customers.

Piedmont continues to monitor its system's ability to deliver gas to firm and interruptible customers. At this time, Piedmont does not foresee the need to interrupt or curtail natural gas service to any of its South Carolina customers during this cold weather event. Should circumstances in this regard change, I will keep you informed.

Also on a separate matter, Pine Needle recently reached out to Piedmont regarding their rate case slated for 2023. I will send you an FYI email shortly sharing the communication that we received from them.

Thank you,
Pia

Pia Powers (she/her) | Managing Director of Gas Rates & Regulatory
4720 Piedmont Row Drive | Charlotte, NC 28210 | 📞 Mobile/Text: 704.249.6685
Pia.Powers@Duke-Energy.com



Powers, Pia K

From: Powers, Pia K
Sent: Thursday, December 22, 2022 3:13 PM
To: Nader, Jordan A; McLawhorn, James-psncuc; Patel, Neha; Boswell, Michelle; Johnson, Sonja
Cc: Hager, Laura M.; PiedmontRegulatory
Subject: RE: [External] FW: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER NOTICE

Hi Jordan,

The quick answer here is 'yes'. At this time, I will refer you to Piedmont's filed comments, responses to Public Staff data requests and presentations in two open dockets: Docket Nos. M-100 Sub 135, and M-100 Sub 163. Certainly, Piedmont can continue to address any specific questions that Public Staff may still have in this regard after the event or any future point in time.

Thanks,
Pia

From: Nader, Jordan A <jordan.nader@psncuc.nc.gov>
Sent: Thursday, December 22, 2022 3:03 PM
To: Powers, Pia K <Pia.Powers@duke-energy.com>; McLawhorn, James-psncuc <james.mclawhorn@psncuc.nc.gov>; Patel, Neha <neha.patel@psncuc.nc.gov>; Boswell, Michelle <michelle.boswell@psncuc.nc.gov>; Johnson, Sonja <sonja.johnson@psncuc.nc.gov>
Cc: Hager, Laura M. <Laura.Hager@duke-energy.com>; PiedmontRegulatory <PiedmontRegulatory@duke-energy.com>
Subject: RE: [External] FW: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER NOTICE

Pia,

Recognizing the potential for rapidly changing conditions with a winter storm of this magnitude, has Piedmont developed an interruption plan for IT and IS should conditions in this storm necessitate it?

Thanks,
Jordan Nader
Public Utilities Engineer
Natural Gas Section
North Carolina Utilities Commission Public Staff
919.733.0898

iMessage

Sat, Dec 24 at 3:13 PM

Hey Pia - Charlotte Mitchell. Just heard from Chris. Are you available for a quick phone call?

Yes

Sat, Dec 24 at 8:57 PM

Meant to text you before I dialed, but my finger hit dial by accident

Transco delivery pressures to PNG's city gate continue to be on a downward trend. No eta on when they'll rebound

Hey No problem. I'm not in a place where I can talk right now. I appreciate the update. Is it correct to assume that this will be a bigger problem than for the

update. Is it correct to assume that this will be a bigger problem than for the Duke electric system? Or is Duke uniquely impacted?

Duke electric does not appear to be uniquely impacted here.

I'll have another update call in the morning and will text an update. Good news is that PNG continues to be able to serve all its customers (no interruptions of service to any customers) at present and forecasts no change in that regard for this weather event. Even with respect to PNG's power generation

event. Even with respect to PNG's power generation customers, we are still able at this time to redeliver the volumes that are being received off transco for them.

Ok that is good news.
Thank you again for update

Sun, Dec 25 at 9:32 AM

No change in Piedmont's status/ability to serve customers since the update I provided last night.

Ok thank you

Powers, Pia K

From: King, Mandi J.
Sent: Wednesday, December 28, 2022 8:37 AM
To: Powers, Pia K; McLawhorn, James-psncuc; Patel, Neha; Nader, Jordan A; Boswell, Michelle; Johnson, Sonja
Cc: PNG Rates and Regulatory
Subject: FW: COLD OFO TERMINATION - NC & SC

All,
Piedmont's Operational Order is being lifted. Please see the original and termination notifications below.
Thanks,
Mandi

COLD OFO TERMINATION - NC & SC



Hargrove, Nathan D
To

Retention Policy inbox (90 days)

TO ALL NORTH CAROLINA & SOUTH CAROLINA THIRD PARTY AGENTS AND CUSTOMERS:

Effective for the start of gas day December 29th (Thursday), 2022 at 10am EST Piedmont's cold Operational Order for NC & SC is being lifted.

Thanks,

Nate Hargrove
Gas Transportation Market Analyst
704.731.4151
nathan.hargrove@duke-energy.com



From: Hargrove, Nathan D <Nathan.Hargrove@duke-energy.com>

Sent: Friday, December 16, 2022 9:54 AM

Subject: PIEDMONT OPERATIONAL FLOW ORDER FOR NC & SC EFFECTIVE STARTING DECEMBER 19TH UNTIL FURTHER NOTICE

TO ALL NORTH CAROLINA & SOUTH CAROLINA THIRD PARTY AGENTS AND CUSTOMERS:
PIEDMONT OPERATIONAL ORDER:

Due to colder temperatures and operational requirements on Piedmont's system, effective starting gas day December 19, 2022 until further notice. Customers and Third-Party Agents are required to maintain a daily short imbalance position of no greater than five (5%) percent or 1,000 dth, whichever is greater, of daily burns. Any and all pools settling short positions greater than five (5%) percent or 1,000 dth, whichever is greater, of daily burns for days that the Short/Cold Operational Order is in effect will be considered not in compliance with this Operational Order.

Customers not complying with this Operational Order will be assessed all penalties and charges applicable to unauthorized under-run volumes as described under "Unauthorized Gas" in Piedmont's Rate Schedule 106 (NC) and Rate Schedule 206 (SC).

For any daily short imbalances greater than five (5%) percent or 1,000 dth, whichever is greater, such charges and penalties include per the tariff, a rate set forth on the Company's 'Rates and Charges' tariff sheet plus the higher of a daily and monthly commodity index price as described in the tariff in addition to your regular tariff charges under Rate Schedule 113 or 114 (Rate Schedule 213 or 214 for SC), as applicable.

In summary, Piedmont has issued a Short/Cold Operational Order only starting on gas day December 19th, 2022 until further notice.

Nate Hargrove

Gas Transportation Market Analyst

704.731.4151

nathan.hargrove@duke-energy.com



**Piedmont Natural Gas, LLC
Docket No. M-100, Sub 163
Public Staff Data Request No. 2 –
Questions on Winter Storm Elliott
Date Sent: February 7, 2023
Requested Date Due: February 17, 2023**

25. Please provide any notifications, request for relief, or emergency operations to or from the Department of Energy or the FERC from December 23, 2022, through December 28, 2022.

Response: Piedmont did not receive any notifications or requests from the Department of Energy or FERC for the duration of this event.

Name and title of responsible person: Adam Long, Vice President - Pipeline Operations

Name and title of preparer: Adam Long, Vice President - Pipeline Operations

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

**Piedmont Natural Gas, LLC
Docket No. M-100, Sub 163
Public Staff Data Request No. 2 –
Questions on Winter Storm Elliott
Date Sent: February 7, 2023
Requested Date Due: February 17, 2023**

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Feb 20 2023

Liquid Natural Gas usage

26. Please provide any cost-benefit or system analysis that was performed to determine whether to withdraw from the Company's LNG plants versus curtailing interruptible customers.

- a. Please provide the Company's calculation to determine the amount of load on the system that would have been required to begin curtailment.
- b. Please provide the Company's calculation to determine the system pressure that would have resulted in curtailments.

Response: Piedmont's use of its LNG during Winter Storm Elliott was consistent with and part of the Company's firm customer gas portfolio plan. Accordingly, no cost-benefit or system analysis was performed.

The system load required to consider interruption of service to Piedmont's interruptible service customers has multiple variables including, notably, expected supplier pressure. For Winter Storm Elliott, none of those variables indicated that an interruption of service to interruptible customers would be warranted. Accordingly, no such calculations were performed.

The pressure that would have initiated an interruption of service to Piedmont's customers is different for each pressure class system and dependent on other variables for that system such as the unique system load. The low-pressure alarms downstream of supplier gates are the indication that service interruptions may be needed. Each pressure system is unique and even systems with the same pressure rating have different thresholds for interruptions.

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

Name and title of preparer: Andrew Donato, Manager - Gas Control

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

**Piedmont Natural Gas, LLC
Docket No. M-100, Sub 163
Public Staff Data Request No. 2 –
Questions on Winter Storm Elliott
Date Sent: February 7, 2023
Requested Date Due: February 17, 2023**

27. Please provide any cost benefit or system analysis that was performed to determine which LNG facilities to withdraw from and at what rates.

Response: Piedmont's Gas Supply team called upon LNG as part of the firm customer gas portfolio for the Carolinas. The amount was split between the Company's three on-system NC LNG facilities to ensure operational flexibility and redundancy if an issue were to arise. The total withdraw amount was selected by Gas Supply with Piedmont's Operations personnel determining the daily target for each LNG Plant based upon pre-existing inventory and geographic location. The LNG plants were provided a daily target and rate was based on system conditions.

Name and title of responsible person: Adam Long, Vice President - Gas Pipeline Operations and Sarah Stabley, Managing Director - Gas Supply Optimization and Pipeline Services

Name and title of preparer: Andrew Donato, Manager - Gas Control

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

**Piedmont Natural Gas, LLC
Docket No. M-100, Sub 163
Public Staff Data Request No. 2 –
Questions on Winter Storm Elliott
Date Sent: February 7, 2023
Requested Date Due: February 17, 2023**

28. Please provide the Company's hourly withdrawals and pressures from each of its LNG plants compared to their maximum and minimum withdrawal capability.
- a. Did the pressure degradation on Transco's system impact the Company's decision with regards to the withdrawal rate from its LNG facilities?

Response: Please see attached log of LNG hourly flows and pressures.

- a. No, Transco pressures did not impact the Company's decision with regards to the withdrawal rate from its LNG facilities.

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

Name and title of preparer: Ryan Smith, Director - LNG and Compression

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

Piedmont Natural Gas Company, Inc.
Docket No. M-100, Sub 163
Public Staff Requests No. 2-28 Attachment
Page 1 of 3

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Feb 20 2023

Huntersville LNG Facility

11001 McCoy Road
Huntersville, NC 28078

Rated Capacity		
	Maximum	Minimum (Approx)
MMSCFD	150	24
MSCFH	6250	1000

	Date	Gas Day	Time	Flow (Outlet) MSCFH	Pressure (PT-19) PSIG	% Max Rated Capacity	% Min Capacity
	12/23/2022	GD23	10:00 AM	95.4	549.6	1.53	9.54
	12/23/2022	GD23	11:00 AM	3086	552.2	49.38	308.60
	12/23/2022	GD23	12:00 PM	3047.4	552.3	48.76	304.74
	12/23/2022	GD23	1:00 PM	3119.8	552.9	49.92	311.98
	12/23/2022	GD23	2:00 PM	3105	552.4	49.68	310.50
	12/23/2022	GD23	3:00 PM	3058.4	552.5	48.93	305.84
	12/23/2022	GD23	4:00 PM	3051.4	552.5	48.82	305.14
	12/23/2022	GD23	5:00 PM	2110	552.5	33.76	211.00
	12/23/2022	GD23	6:00 PM	3134.6	552.2	50.15	313.46
	12/23/2022	GD23	7:00 PM	3109.9	552.4	49.76	310.99
	12/23/2022	GD23	8:00 PM	3103.4	552.3	49.65	310.34
	12/23/2022	GD23	9:00 PM	3085.2	552.2	49.36	308.52
	12/23/2022	GD23	10:00 PM	3100.8	552.2	49.61	310.08
	12/23/2022	GD23	11:00 PM	3063.9	552.2	49.02	306.39
	12/24/2022	GD23	12:00 AM	3094.5	552.2	49.51	309.45
	12/24/2022	GD23	1:00 AM	3001.3	552	48.02	300.13
	12/24/2022	GD23	2:00 AM	3069.5	552.3	49.11	306.95
	12/24/2022	GD23	3:00 AM	2993.8	552.3	47.90	299.38
	12/24/2022	GD23	4:00 AM	3007.3	551.2	48.12	300.73
	12/24/2022	GD23	5:00 AM	2994	550.3	47.90	299.40
	12/24/2022	GD23	6:00 AM	3071.7	543.45	49.15	307.17
	12/24/2022	GD23	7:00 AM	3170.1	533.3	50.72	317.01
	12/24/2022	GD23	8:00 AM	3174.1	518.9	50.79	317.41
	12/24/2022	GD23	9:00 AM	2838	507.5	45.41	283.80
	Totals	GD23		73095			
	12/24/2022	GD24	10:00 AM	3076.8	495.2	49.23	307.68
	12/24/2022	GD24	11:00 AM	3302.5	490.1	52.84	330.25
	12/24/2022	GD24	12:00 PM	3051.4	487.4	48.82	305.14
	12/24/2022	GD24	1:00 PM	3156.4	477.6	50.50	315.64
	12/24/2022	GD24	2:00 PM	3006.7	478.7	48.11	300.67
	12/24/2022	GD24	3:00 PM	3057.4	485.01	48.92	305.74
	12/24/2022	GD24	4:00 PM	3048	492.04	48.77	304.80
	12/24/2022	GD24	5:00 PM	2993	494.85	47.89	299.30
	12/24/2022	GD24	6:00 PM	3062.1	496.3	48.99	306.21
	12/24/2022	GD24	7:00 PM	3039.4	494.6	48.63	303.94
	12/24/2022	GD24	8:00 PM	3072.6	490.6	49.16	307.26
	12/24/2022	GD24	9:00 PM	3043.7	484.9	48.70	304.37
	12/24/2022	GD24	10:00 PM	3125.9	481.6	50.01	312.59
	12/24/2022	GD24	11:00 PM	3077	476.1	49.23	307.70
	12/25/2022	GD24	12:00 AM	3082.5	475.1	49.32	308.25
	12/25/2022	GD24	1:00 AM	3042.9	476.5	48.69	304.29
	12/25/2022	GD24	2:00 AM	2987.1	476.6	47.79	298.71
	12/25/2022	GD24	3:00 AM	2974	478.8	47.58	297.40
	12/25/2022	GD24	4:00 AM	3042.3	479.6	48.68	304.23
	12/25/2022	GD24	5:00 AM	3047.3	479.8	48.76	304.73
	12/25/2022	GD24	6:00 AM	3020.2	478.3	48.32	302.02
	12/25/2022	GD24	7:00 AM	2983.5	477.3	47.74	298.35
	12/25/2022	GD24	8:00 AM	3071	470.8	49.14	307.10
	12/25/2022	GD24	9:00 AM	3023	465.36	48.37	302.30
	Totals	GD24		72830			
	12/25/2022	GD25	10:00 AM	2949.6	462.62	47.19	294.96
	12/25/2022	GD25	11:00 AM	2351.2	451.09	37.62	235.12
	12/25/2022	GD25	12:00 PM	2041	454.57	32.66	204.10
	12/25/2022	GD25	1:00 PM	1962.2	461.62	31.40	196.22
	12/25/2022	GD25	2:00 PM	1985.7	480.38	31.77	198.57
	12/25/2022	GD25	3:00 PM	1887.6	495.3	30.20	188.76
	12/25/2022	GD25	4:00 PM	1901	521.44	30.42	190.10
	12/25/2022	GD25	5:00 PM	1956.2	531.87	31.30	195.62
	12/25/2022	GD25	6:00 PM	1935.5	540.1	30.97	193.55
	12/25/2022	GD25	7:00 PM	1909	546.86	30.54	190.90
	12/25/2022	GD25	8:00 PM	1943	554.26	31.09	194.30
	12/25/2022	GD25	9:00 PM	2064.4	552.71	33.03	206.44
	12/25/2022	GD25	10:00 PM	1984.5	552.89	31.75	198.45
	12/25/2022	GD25	11:00 PM	2012.9	550.85	32.21	201.29
	12/26/2022	GD25	12:00 AM	2063.1	551.01	33.01	206.31
	12/26/2022	GD25	1:00 AM	2059	551.91	32.94	205.90
	12/26/2022	GD25	2:00 AM	2023.3	552.86	32.37	202.33
	12/26/2022	GD25	3:00 AM	2054	550.91	32.86	205.40
	12/26/2022	GD25	4:00 AM	2031.5	550.71	32.50	203.15
	12/26/2022	GD25	5:00 AM	2008.5	550.91	32.14	200.85
	12/26/2022	GD25	6:00 AM	2055	550.91	32.88	205.50
	12/26/2022	GD25	7:00 AM	1977.2	550.69	31.64	197.72
	12/26/2022	GD25	8:00 AM	1966	550.81	31.46	196.60
	12/26/2022	GD25	9:00 AM	1968.9	550.85	31.50	196.89
	Totals	GD25		48553			

**Piedmont Natural Gas Company, Inc. Docket
No. M-100, Sub 163
Public Staff Requests No. 2-28 Attachment
Page 2 of 3**

Bentonville LNG

2256 Harper House Road
Four Oaks, NC 27524

Rated Capacity		
	Maximum	Minimum (Approx)
MMSCFD	120	36
MSCFH	5000	1500

	Date	Gas Day	Time	Flow (FT-7-5) MSCFH	Pressure (PT-119) PSIG	% Max Rated Capacity	% Min Capacity
	12/23/2022	GD23	10:00 AM	0	638	0.00	0.00
	12/23/2022	GD23	11:00 AM	0	624.8	0.00	0.00
	12/23/2022	GD23	12:00 PM	0	617.8	0.00	0.00
	12/23/2022	GD23	1:00 PM	0	614.7	0.00	0.00
	12/23/2022	GD23	2:00 PM	0	636.1	0.00	0.00
	12/23/2022	GD23	3:00 PM	0	641.3	0.00	0.00
	12/23/2022	GD23	4:00 PM	0	627.1	0.00	0.00
	12/23/2022	GD23	5:00 PM	0	614.9	0.00	0.00
	12/23/2022	GD23	6:00 PM	0	607.7	0.00	0.00
	12/23/2022	GD23	7:00 PM	0	603.6	0.00	0.00
	12/23/2022	GD23	8:00 PM	0	601.6	0.00	0.00
	12/23/2022	GD23	9:00 PM	0	599.6	0.00	0.00
	12/23/2022	GD23	10:00 PM	0	598.5	0.00	0.00
	12/23/2022	GD23	11:00 PM	0	596.5	0.00	0.00
	12/24/2022	GD23	12:00 AM	0	582.3	0.00	0.00
	12/24/2022	GD23	1:00 AM	2698	617.2	53.96	179.87
	12/24/2022	GD23	2:00 AM	2688	625.4	53.76	179.20
	12/24/2022	GD23	3:00 AM	3304	628.5	66.08	220.27
	12/24/2022	GD23	4:00 AM	3566	649.2	71.32	237.73
	12/24/2022	GD23	5:00 AM	3699	658.5	73.98	246.60
	12/24/2022	GD23	6:00 AM	3768	658.5	75.36	251.20
	12/24/2022	GD23	7:00 AM	2743	639	54.86	182.87
	12/24/2022	GD23	8:00 AM	2577	626.6	51.54	171.80
	12/24/2022	GD23	9:00 AM	2676	618.7	53.52	178.40
	Totals	GD23		28821			
	12/24/2022	GD24	10:00 AM	2139	606.6	42.78	142.60
	12/24/2022	GD24	11:00 AM	2865	610.6	57.30	191.00
	12/24/2022	GD24	12:00 PM	2576	615.7	51.52	171.73
	12/24/2022	GD24	1:00 PM	2615	622.8	52.30	174.33
	12/24/2022	GD24	2:00 PM	2989	628.9	59.78	199.27
	12/24/2022	GD24	3:00 PM	2315	640.1	46.30	154.33
	12/24/2022	GD24	4:00 PM	3179	651.2	63.58	211.93
	12/24/2022	GD24	5:00 PM	3086	657.3	61.72	205.73
	12/24/2022	GD24	6:00 PM	3144	660.3	62.88	209.60
	12/24/2022	GD24	7:00 PM	3045	661.3	60.90	203.00
	12/24/2022	GD24	8:00 PM	3037	659.3	60.74	202.47
	12/24/2022	GD24	9:00 PM	3048	658.3	60.96	203.20
	12/24/2022	GD24	10:00 PM	3059	657.3	61.18	203.93
	12/24/2022	GD24	11:00 PM	3061	656.3	61.22	204.07
	12/25/2022	GD24	12:00 AM	3157	656.1	63.14	210.47
	12/25/2022	GD24	1:00 AM	3066	655.3	61.32	204.40
	12/25/2022	GD24	2:00 AM	3133	655.3	62.66	208.87
	12/25/2022	GD24	3:00 AM	3156	655.3	#DIV/0!	210.40
	12/25/2022	GD24	4:00 AM	3138	654.3	62.76	209.20
	12/25/2022	GD24	5:00 AM	3074	653.2	61.48	204.93
	12/25/2022	GD24	6:00 AM	2822	647.1	56.44	188.13
	12/25/2022	GD24	7:00 AM	2507	637.9	50.14	167.13
	12/25/2022	GD24	8:00 AM	2702	629.9	54.04	180.13
	12/25/2022	GD24	9:00 AM	2606	622.9	52.12	173.73
	Totals	GD24		73617			
	12/25/2022	GD25	10:00 AM	2809	609.9	56.18	187.27
	12/25/2022	GD25	11:00 AM	2650	595.1	53.00	176.67
	12/25/2022	GD25	12:00 PM	2615	616.6	52.30	174.33
	12/25/2022	GD25	1:00 PM	2420	626.7	48.40	161.33
	12/25/2022	GD25	2:00 PM	2443	633.8	48.86	162.87
	12/25/2022	GD25	3:00 PM	2192	636.8	43.84	146.13
	12/25/2022	GD25	4:00 PM	2166	640.8	43.32	144.40
	12/25/2022	GD25	5:00 PM	2230	640.8	44.60	148.67
	12/25/2022	GD25	6:00 PM	2143	638.8	42.86	142.87
	12/25/2022	GD25	7:00 PM	2161	635.8	43.22	144.07
	12/25/2022	GD25	8:00 PM	2181	632.7	43.62	145.40
	12/25/2022	GD25	9:00 PM	2269	630.7	45.38	151.27
	12/25/2022	GD25	10:00 PM	2229	627.7	44.58	148.60
	12/25/2022	GD25	11:00 PM	2293	626.7	45.86	152.87
	12/26/2022	GD25	12:00 AM	2249	625.7	44.98	149.93
	12/26/2022	GD25	1:00 AM	2302	624.7	46.04	153.47
	12/26/2022	GD25	2:00 AM	2284	623.7	45.68	152.27
	12/26/2022	GD25	3:00 AM	2216	621.6	44.32	147.73
	12/26/2022	GD25	4:00 AM	2294	618.6	45.88	152.93
	12/26/2022	GD25	5:00 AM	2031	613.5	40.62	135.40
	12/26/2022	GD25	6:00 AM	1913	598.2	38.26	127.53
	12/26/2022	GD25	7:00 AM	1689	582.9	33.78	112.60
	12/26/2022	GD25	8:00 AM	1721	567.7	34.42	114.73
	12/26/2022	GD25	9:00 AM	1544	548.3	30.88	102.93
	Totals	GD25		50000			

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Robeson LNG
680 Rev Bill Road
Maxton, NC 28364

Rated Capacity		
	Maximum	Minimum (Approx)
MMSCFD	200	48
MSCFH	8333.3	2000

4

	Date	Gas Day	Time	Flow (FIT-3123) MSCFH	Pressure (PT-3017) PSIG	% Max Rated Capacity	% Min Capacity
	12/23/2022	GD23	10:00 AM	0	854.3	0.00	0.00
	12/23/2022	GD23	11:00 AM	0	846.8	0.00	0.00
	12/23/2022	GD23	12:00 PM	0	841.8	0.00	0.00
	12/23/2022	GD23	1:00 PM	0	841	0.00	0.00
	12/23/2022	GD23	2:00 PM	0	884.7	0.00	0.00
	12/23/2022	GD23	3:00 PM	0	888.1	0.00	0.00
	12/23/2022	GD23	4:00 PM	0	886.2	0.00	0.00
	12/23/2022	GD23	5:00 PM	0	874.9	0.00	0.00
	12/23/2022	GD23	6:00 PM	0	839.9	0.00	0.00
	12/23/2022	GD23	7:00 PM	0	839.4	0.00	0.00
	12/23/2022	GD23	8:00 PM	0	837.2	0.00	0.00
	12/23/2022	GD23	9:00 PM	0	828.3	0.00	0.00
	12/23/2022	GD23	10:00 PM	571	820.2	6.85	28.55
	12/23/2022	GD23	11:00 PM	1822	822.7	21.86	91.10
	12/24/2022	GD23	12:00 AM	3357	836.8	40.28	167.85
	12/24/2022	GD23	1:00 AM	3773	843.8	45.28	188.65
	12/24/2022	GD23	2:00 AM	4114	845.7	49.37	205.70
	12/24/2022	GD23	3:00 AM	4185	842.9	50.22	209.25
	12/24/2022	GD23	4:00 AM	4072	847	48.86	203.60
	12/24/2022	GD23	5:00 AM	4194	853.4	50.33	209.70
	12/24/2022	GD23	6:00 AM	4078	847.6	48.94	203.90
	12/24/2022	GD23	7:00 AM	4221	845.6	50.65	211.05
	12/24/2022	GD23	8:00 AM	4162	845.1	49.94	208.10
	12/24/2022	GD23	9:00 AM	4198	850.5	50.38	209.90
	Totals	GD23		43481			
	12/24/2022	GD24	10:00 AM	3882	848.2	46.58	194.10
	12/24/2022	GD24	11:00 AM	3969	846.1	47.63	198.45
	12/24/2022	GD24	12:00 PM	3986	845.5	47.83	199.30
	12/24/2022	GD24	1:00 PM	3889	845.5	46.67	194.45
	12/24/2022	GD24	2:00 PM	3753	847.5	45.04	187.65
	12/24/2022	GD24	3:00 PM	3933	847.4	47.20	196.65
	12/24/2022	GD24	4:00 PM	3727	842.7	44.72	186.35
	12/24/2022	GD24	5:00 PM	3798	842.3	45.58	189.90
	12/24/2022	GD24	6:00 PM	3809	845	45.71	190.45
	12/24/2022	GD24	7:00 PM	3852	852.4	46.22	192.60
	12/24/2022	GD24	8:00 PM	3819	851.4	45.83	190.95
	12/24/2022	GD24	9:00 PM	3814	847.5	45.77	190.70
	12/24/2022	GD24	10:00 PM	3771	846.4	45.25	188.55
	12/24/2022	GD24	11:00 PM	3823	846.3	45.88	191.15
	12/25/2022	GD24	12:00 AM	3717	849.5	44.60	185.85
	12/25/2022	GD24	1:00 AM	3846	848.2	46.15	192.30
	12/25/2022	GD24	2:00 AM	3859	848	46.31	192.95
	12/25/2022	GD24	3:00 AM	4859	851.3	58.31	242.95
	12/25/2022	GD24	4:00 AM	4647	845.9	55.76	232.35
	12/25/2022	GD24	5:00 AM	4667	845.3	56.00	233.35
	12/25/2022	GD24	6:00 AM	4755	845.8	57.06	237.75
	12/25/2022	GD24	7:00 AM	4788	849.7	57.46	239.40
	12/25/2022	GD24	8:00 AM	4769	850.8	57.23	238.45
	12/25/2022	GD24	9:00 AM	4827	850.5	57.92	241.35
	Totals	GD24		98484			
	12/25/2022	GD25	10:00 AM	3958	849.1	47.50	197.90
	12/25/2022	GD25	11:00 AM	2073	848.2	24.88	103.65
	12/25/2022	GD25	12:00 PM	2054	857.2	24.65	102.70
	12/25/2022	GD25	1:00 PM	2099	873.5	25.19	104.95
	12/25/2022	GD25	2:00 PM	2127	872	25.52	106.35
	12/25/2022	GD25	3:00 PM	2106	871.4	25.27	105.30
	12/25/2022	GD25	4:00 PM	2097	870.5	25.16	104.85
	12/25/2022	GD25	5:00 PM	2124	868.4	25.49	106.20
	12/25/2022	GD25	6:00 PM	2063	866.3	24.76	103.15
	12/25/2022	GD25	7:00 PM	2116	853.5	25.39	105.80
	12/25/2022	GD25	8:00 PM	2030	848.8	24.36	101.50
	12/25/2022	GD25	9:00 PM	2094	845.2	25.13	104.70
	12/25/2022	GD25	10:00 PM	2080	833.9	24.96	104.00
	12/25/2022	GD25	11:00 PM	2025	825.6	24.30	101.25
	12/26/2022	GD25	12:00 AM	2073	848.3	24.88	103.65
	12/26/2022	GD25	1:00 AM	2121	850.5	25.45	106.05
	12/26/2022	GD25	2:00 AM	2107	850	25.28	105.35
	12/26/2022	GD25	3:00 AM	2096	847.4	25.15	104.80
	12/26/2022	GD25	4:00 AM	2131	845.6	25.57	106.55
	12/26/2022	GD25	5:00 AM	2102	848.4	25.22	105.10
	12/26/2022	GD25	6:00 AM	2152	850.1	25.82	107.60
	12/26/2022	GD25	7:00 AM	2109	832.5	25.31	105.45
	12/26/2022	GD25	8:00 AM	2045	815.1	24.54	102.25
	12/26/2022	GD25	9:00 AM	2154	831.8	25.85	107.70
	Totals	GD25		51456			

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29. Please provide the conditions that would be required for the Company to justify refueling LNG plants within the winter months.

Response: The Company has a pro forma plan in place with tolerable monthly withdrawals from the LNG plants during the winter months (November through March). Historically, this pro forma plan has enabled the Company to liquify at the LNG plants during the summer months when natural gas demand and prices are typically lower. Should periods of high natural gas demand occur on Piedmont's system early in the winter season, the Company would consider withdrawing from the LNG facilities a quantity of gas greater than laid out in the pro forma LNG plan; this circumstance may then lead the Company to consider liquifying on subsequent lower demand days that winter season in order to replenish its LNG inventories for system needs that may arise during the remainder of the winter season. However, the Company historically has not refueled the LNG plants during the winter months.

Name and title of responsible person: Todd Breece, Manager - Natural Gas Trading & Optimization and Sarah Stabley, Managing Director - Gas Supply Optimization and Pipeline Services

Name and title of preparer: James Manning, Sr. Gas Trader

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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30. Please provide all withdrawal requests made of off-system by gas-day, volumes requested, and supplier. Please specify whether these requests were accepted and volumes delivered or if they were rejected.

Response:

December 23, 2022

- Requested 82,683 dths from Columbia FSS Storage, received 82,863 dths.
- Requested 70,119 dths from Hardy Storage, received 70,119 dths.
- Requested 77,475 dths from Transco GSS Storage, received 77,475 dths.
- Requested 75,869 dths from Pine Needle LNG, received 75,869 dths.

December 24, 2022

- Requested 82,683 dths from Columbia FSS Storage, received 82,863 dths.
- Requested 70,119 dths from Hardy Storage, received 70,119 dths.
- Requested 77,475 dths from Transco GSS Storage, received 77,475 dths.
- Requested 41,752 dths from Pine Needle LNG, received 41,752 dths.
- Requested 1,528 dths from Transco ESS Storage, received 1,528 dths.
- Requested 39,069 dths from Transco WSS Storage, received 39,069 dths.

December 25, 2022

- Requested 82,683 dths from Columbia FSS Storage, received 82,863 dths.
- Requested 70,119 dths from Hardy Storage, received 70,119 dths.
- Requested 63,367 dths from Transco GSS Storage, received 63,367 dths.
- Requested 39,069 dths from Transco WSS Storage, received 39,069 dths.

December 26, 2022

- Requested 82,683 dths from Columbia FSS Storage, received 82,863 dths.
- Requested 70,119 dths from Hardy Storage, received 70,119 dths.
- Requested 77,475 dths from Transco GSS Storage, received 77,475 dths.
Requested 29,498 dths from Pine Needle LNG, received 29,498 dths.
- Requested 1,528 dths from Transco ESS Storage, received 1,528 dths.

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- Requested 39,069 dths from Transco WSS Storage, received 39,069 dths.

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

Name and title of preparer: Brady Gould, Manager Natural Gas Scheduling & City Gate Operations

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

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31. With regard to the Company's January 30, 2023, Winter Storm Elliott update presentation to the NCUC:

- a. Slide 2: Please discuss the term, 'significant.....' and list all operational issues on PNG's system if not already discussed above.
- b. Please provide the Company's system pressure sensitivity analyses upon completion of conducting operational lessons.
- c. For each day of the event, please provide any notification received from gas producers/marketers on existing well-head conditions and all related gas supply.
- d. At each of the Company's compressor stations, please list the following:
 - i. Location of the compressor station (show on a map).
 - ii. Operating pressure before Winter Storm Elliott and operating pressure during December 23, 2022, through December 28, 2022.
 - iii. Mitigation measures put in place to overcome the pressure differentials in order to serve:
 - i. Firm customers; and
 - ii. Interruptible customers.
 - iv. The location of the Company's vulnerable points where the Company experienced pressure drops on a map.
- e. Slide 4: detailed discussions on lessons learned from observing the impact of Winter Storm Elliott on Midwest and Tennessee LDC operations and measures put in place for the system benefit.
- f. Slide 8: Had Winter Storm Elliott arrived mid-week of a non-holiday work week, please discuss:
 - i. Likely curtailments;
 - ii. Natural gas demand v/s what the Company actually experienced;
 - iii. Changes in interstate pipeline/storage gas supply or onsystem LNG withdrawals.

Response:

- a. The phrasing "significant operational or other issues....." was meant to convey to the Commission that Piedmont had no operational issues that impaired or

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impeded Piedmont's ability to deliver gas to its customers. Piedmont had only two operational issues in North Carolina: the first was the failure of a pressure transmitter at our Cabarrus Compressor Station and that failure was deemed as non-critical and was addressed the next business day. The second was a PLC code error on the odorant injection system at the Huntersville LNG Plant at start up and that was immediately addressed with no impacts.

- b. The pressure sensitivity analysis will take several months to complete and will be provided as soon as practical.
- c. Piedmont did not receive any applicable notifications from producers/marketers impacting its system supply for the Carolinas during Winter Storm Elliott.
- d. Please see the attached map and pressure trends. Piedmont experienced no pressure or flow issues during the event that required any mitigation measures to be used. Piedmont did not experience any points of pressure drop on our system that would indicate a point of vulnerability that would impact Piedmont's ability to flow gas to customers.
- e. The Company was able to observe in real-time in its Charlotte Control Room the impacts of Winter Storm Elliott to its natural gas system in TN and to its affiliate LDC systems in the Midwest (in OH and KY). Specifically, Piedmont was able to observe the impacts on upstream natural gas suppliers and their equipment during the weather event, as well as the impacts and/or benefits of the cold weather preparations undertaken pursuant to the Winter Weather Playbook to Piedmont's natural gas systems and to its Midwest affiliate LDC systems. Piedmont was able to observe that there were several equipment issues on upstream companies with their compressor stations, equipment, and supply points but neither Piedmont's nor its Midwest affiliate's respective natural gas systems experienced any equipment issues. These observations informed Piedmont that the Winter Weather Playbook actions taken prior to the storm enabled event-free operations of the Company's natural gas equipment in the very cold conditions encountered in TN and in the very cold conditions encountered in the Midwest.
- f. Had Winter Storm Elliott arrived mid-week of a non-holiday work week, natural gas demand experienced on Piedmont's system would have likely been higher.
 - i. Interruptions of service to interruptible customers would have not been forecasted or planned based on the weather information that the Company reviewed prior to the storm. Despite the actual supplier pressures

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encountered during Winter Storm Elliott, interruption of service to interruptible customers would have still been unlikely.

ii. The Company's forecasted natural gas demand was in line with actual demand for Winter Storm Elliott. Had Winter Storm Elliott arrived mid-week of a non-holiday work week and schools/business had not shut down then demand would have likely been higher, but still not near levels that would warrant interruption of service to interruptible customers.

iii. There would not have been material changes to interstate pipeline/storage gas supply or on-system LNG withdrawals for a mid-week storm. Interstate supplies were available for the Company to use and most likely would have been available for the possible increase in demand had Winter Storm Elliott arrived mid-week of a non-holiday work week.

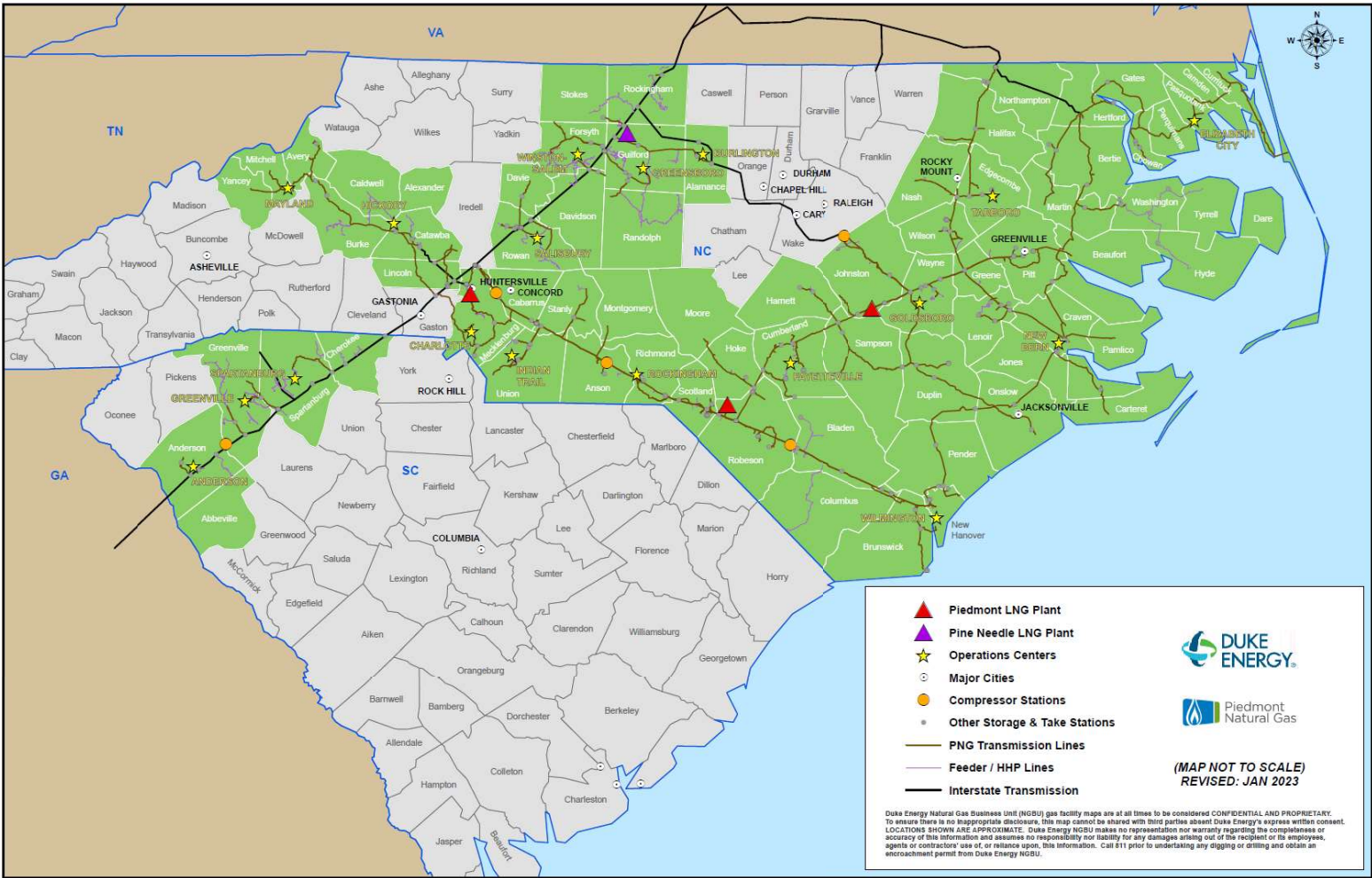
Name and title of responsible person: Adam Long, Vice President - Gas Pipeline Operations

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

Response provided by Piedmont Natural Gas Company, Inc. on February 17, 2023.

Piedmont Overview – Carolinas

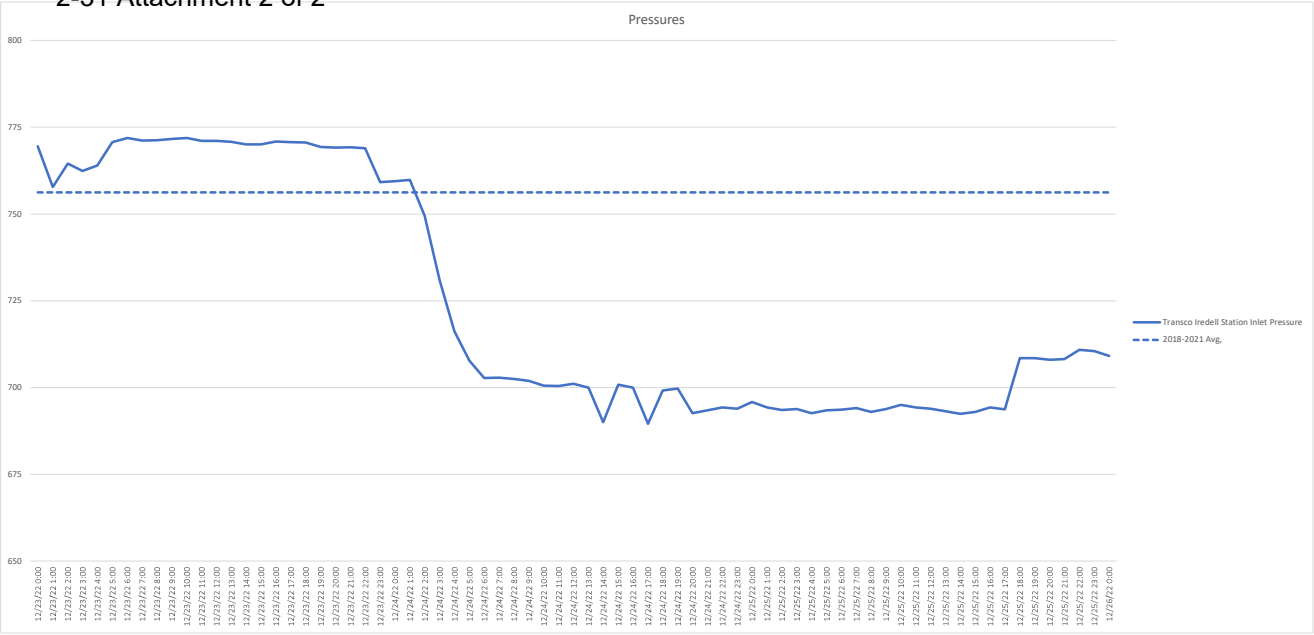
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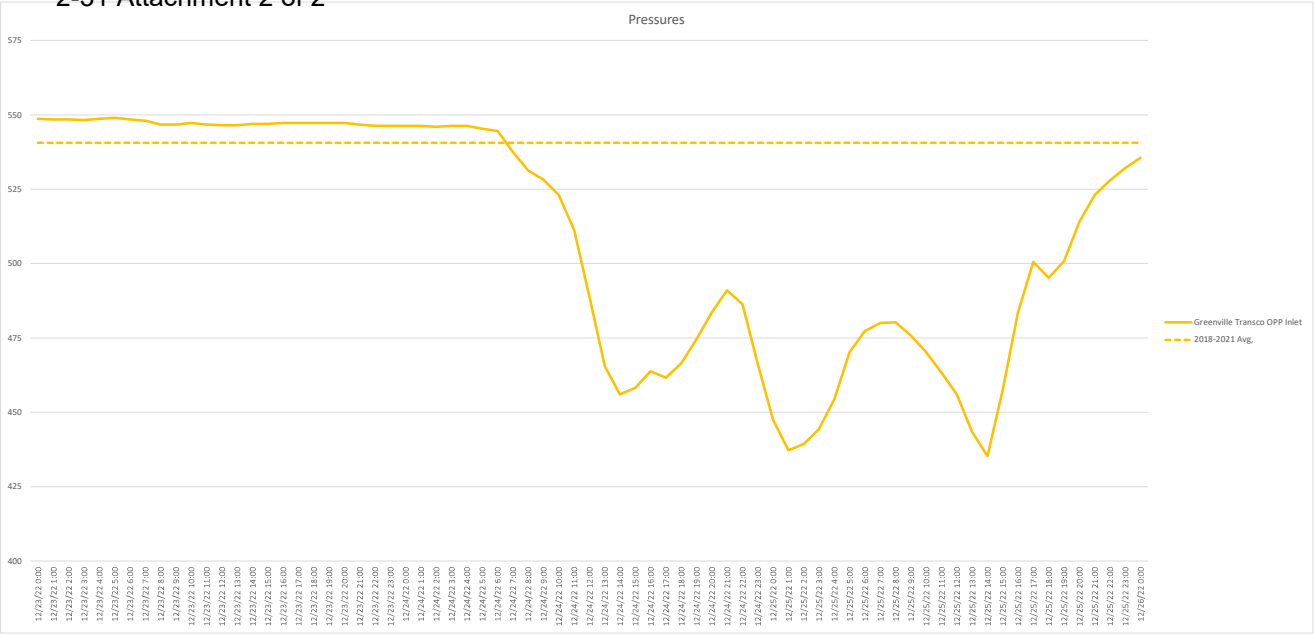
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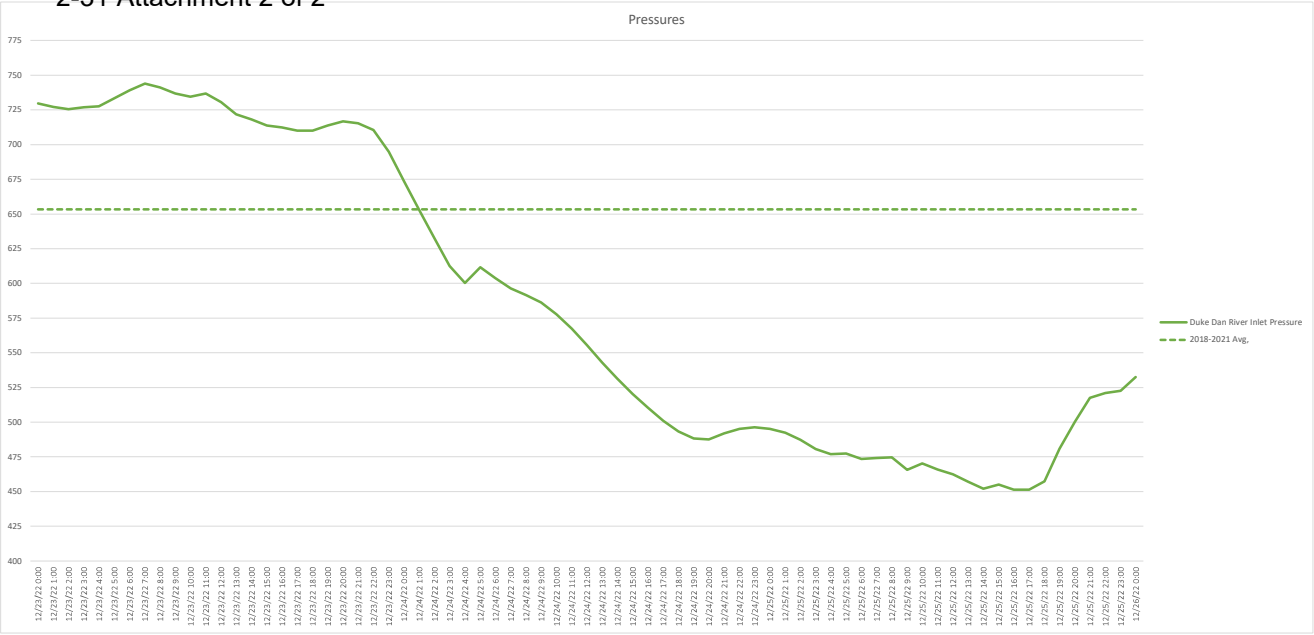
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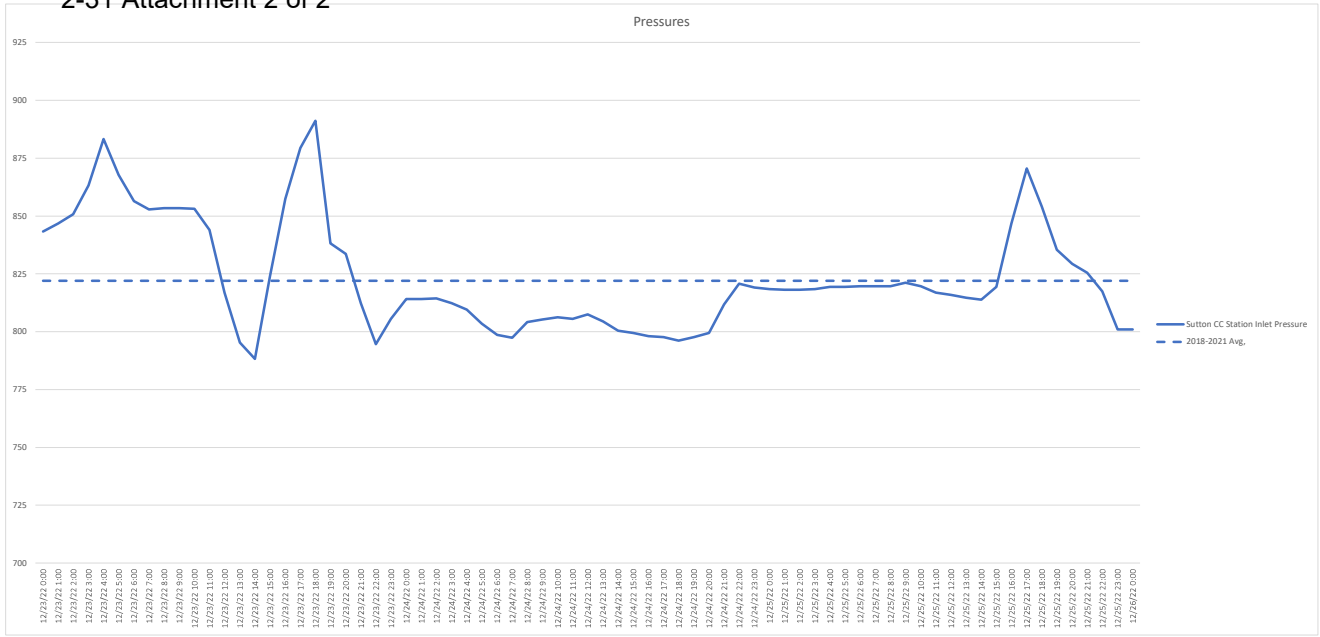
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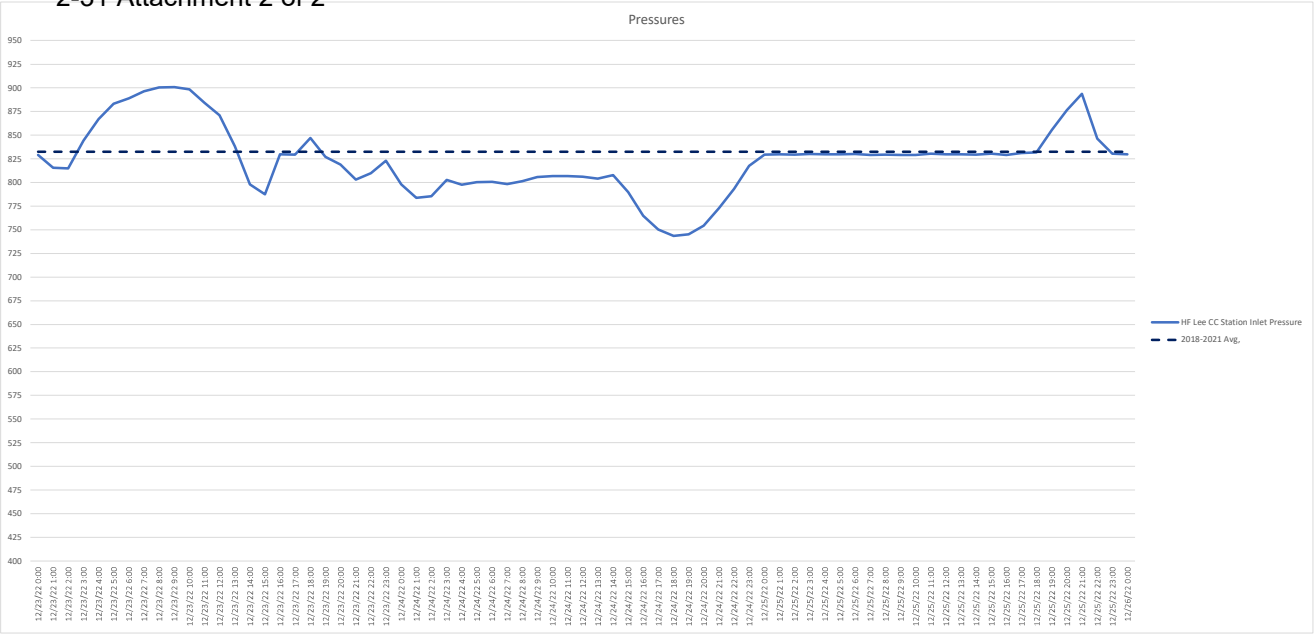
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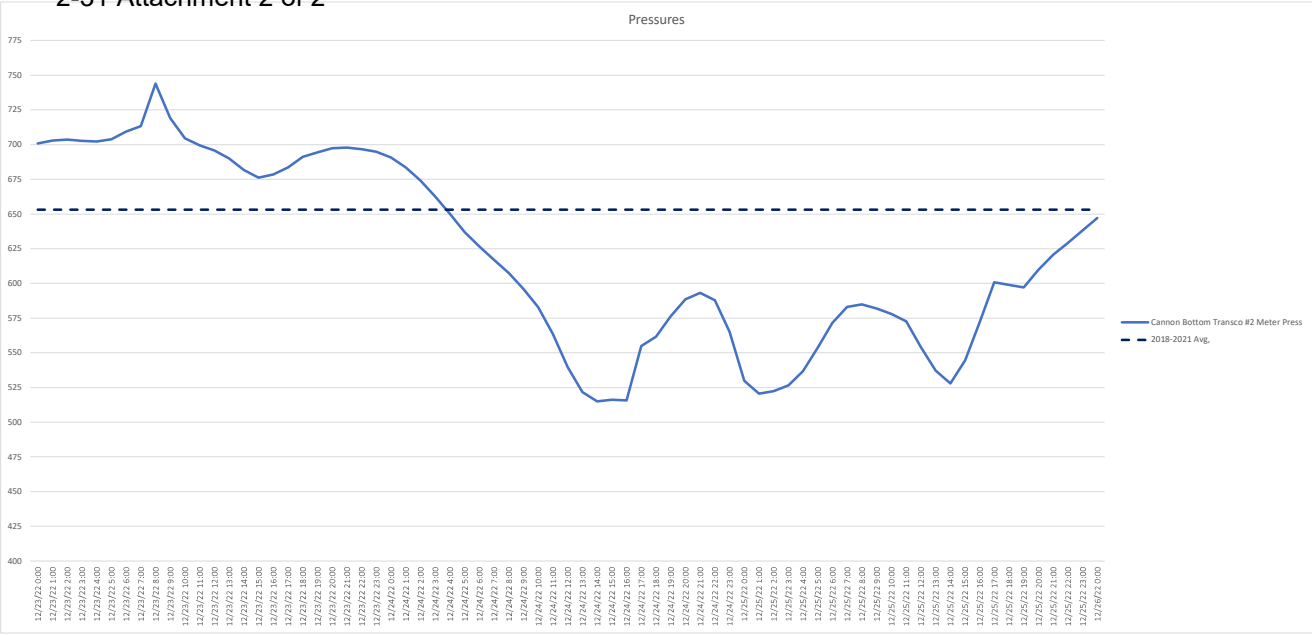
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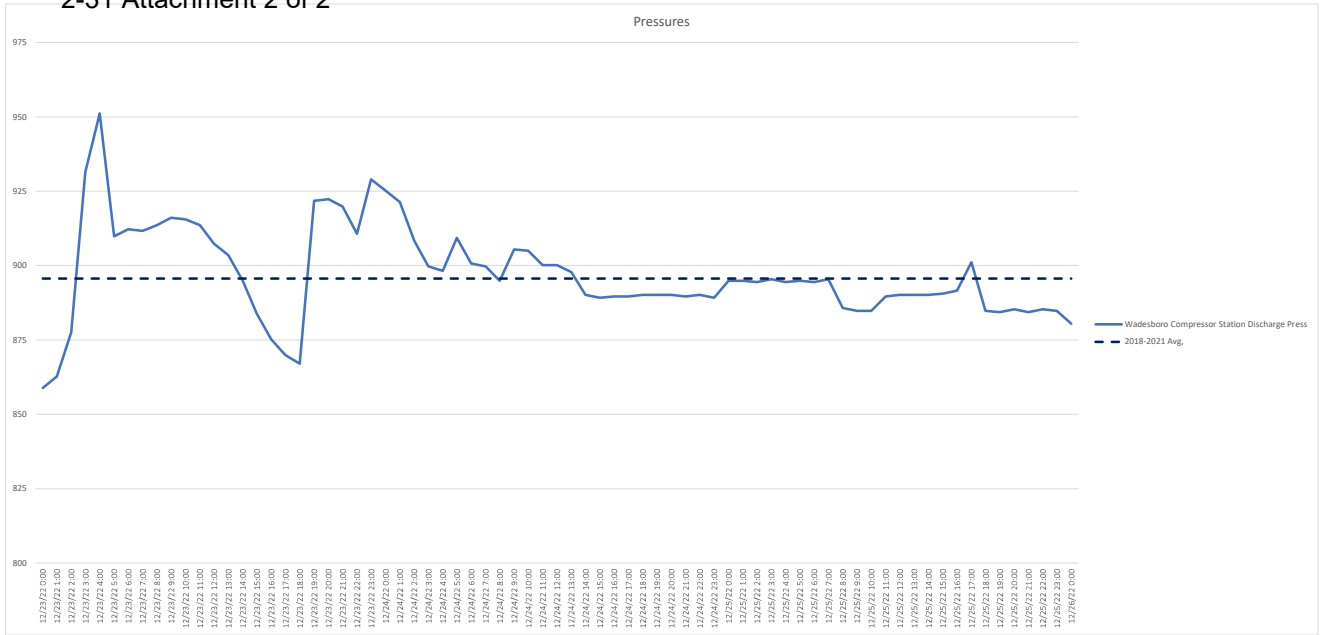
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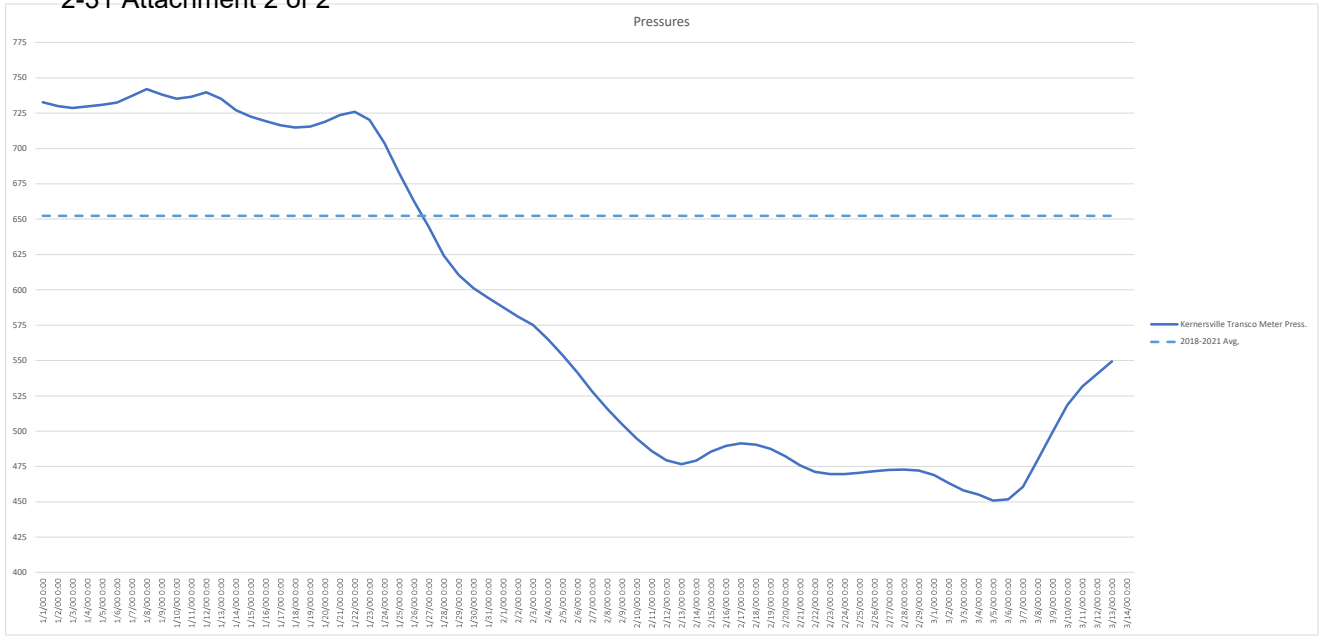
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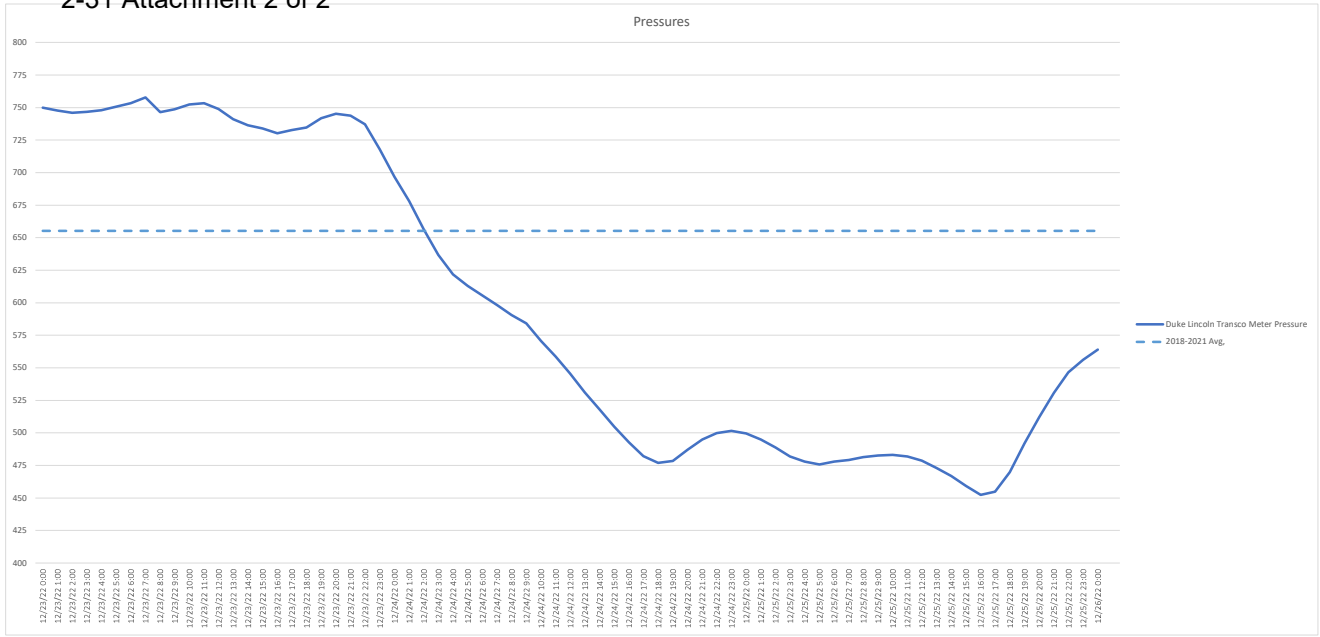
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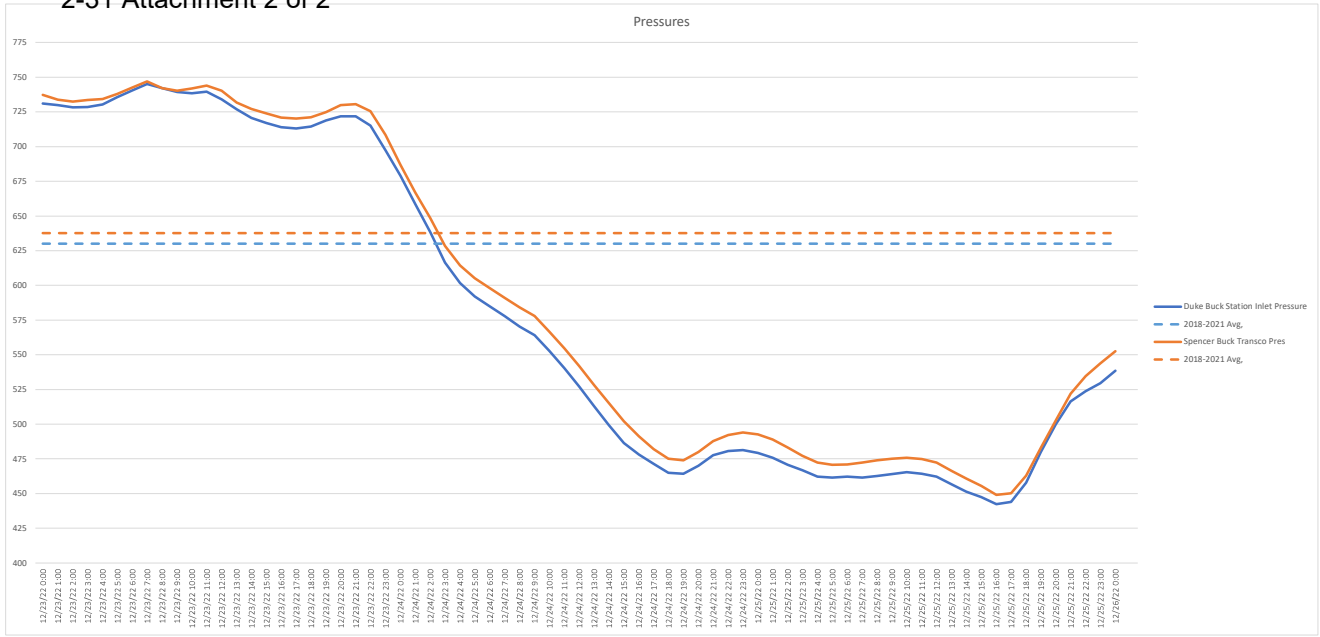
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Location	Low Pressure Setpoint
Dan River Inlet Pressure	540
Spencer Buck Transco Pressure	550
Kernersville Transco Meter Pressure	500
Transco Iredell Station Inlet Pressure	600
Duke Lincoln Transco Meter Pressure	460
Greenville Transco OPP Inlet	400
Cannon Bottom Transco #2 Meter Pressure	450
Wadesboro Compressor Station Discharge Pressure	500
HF Lee CC Station Inlet Pressure	700
Sutton CC Station Inlet Pressure	700