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September 28, 2018

VIA ELECTRONIC FILING

Ms. M. Lynn Jarvis
Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street, Dobbs Building
Raleigh, North Carolina 27603

Re: Docket No. G-9, Sub 727

Dear Ms. Jarvis:

On September 24, 2018, the Commission issued its Order Providing Notice of Commission Questions in Docket No. G-9, Sub 727. In that Order, the Commission set forth certain questions that it directed to the witnesses in the above-captioned docket and provided that the parties could also file written responses to the enumerated questions if they chose.

In response to the Commission's September 24, 2018 Order, Piedmont hereby respectfully submits its responses to the Commission's Questions 1 – 7, 8.(a), and 9-10. Piedmont further advises the Commission that it intends to supplement this response on October 1, 2018 with its response to question 8(b).

Please accept the attached responses for filing. A copy of these responses is being served on all parties to this proceeding by copy of this correspondence.

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

Sincerely,

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

JHJ/rkg

Enclosure

cc: Bruce Barkley
Pia Powers
Elizabeth Culpepper
Robert Page

**NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. G-9, SUB 727**

**Piedmont Natural Gas Company, Inc.
Written Response to Commission Questions**

1. According to Piedmont witness Raney's testimony, the Atlantic Coast Pipeline (ACP) will come on-line in November of 2019. Is that still Piedmont's expectation?

Response:

The Atlantic Coast Pipeline is currently projected to be in-service November 2019. Construction is currently underway as authorized by FERC through various Partial Notices to Proceed on construction activities. We have been assured by ACP, as recently as September 27, 2018, that under current conditions they continue to project an in-service date of November 2019.

2. Raney Exhibit GJR-5C shows firm pipeline, seasonal storage and peaking capacity. For each of the facilities shown, describe:

(a) The receipt and delivery points (or zones) of pipeline capacity.

Response:

Please see Attachment A hereto.

(b) For seasonal storage and interstate peaking capacity:

(i) The injection, withdrawal and storage capacity, and when and for how many days injection and withdrawal services are available.

Response:

Please see the Attachment B hereto.

(ii) If the facilities are off of Piedmont's system, please explain:

(a) Where they are located?

(b) What pipeline assets are used to get them to Piedmont?

(c) When Piedmont's contract for each facility expires?

Response (a): Please see Attachment C hereto.

Response (b): Please see Attachment C hereto.

Response (c): Please see Attachment C hereto.

(iii) Footnote 2 of Raney Exhibit GJR-5C states that “Beginning in FY 2015, Dominion capacity removed as available capacity on design day due to non-firm backhaul from Transco’s Zone 6.” Discuss how changes in flow patterns from the north have impacted the availability of the other seasonal storage and interstate peaking facilities.

Response:

Prior to the development of Marcellus, Utica and Appalachian region supplies (“Marcellus”), volumes on Transco were moved from south to north on south to north transportation agreements. Due to the abundance of supplies from Marcellus, Transco has experienced significant changes in physical flow patterns where gas now flows north to south and south to north in various parts of their system.

Historically, Piedmont utilized its south to north capacity to bring gas from the Gulf Coast region and, at the same time, on a secondary basis, reliably segmented the capacity by moving gas supplies from north to south on the same transportation agreements. In recent years, because of the significant flow pattern changes on Transco, such north to south deliveries on contracts whose primary path is south to north is generally no longer reliable for design day planning. Negatively affected storage and peaking assets include FSS and Hardy. Other peak day capacity assets including those on Columbia Gas Transmission, Midwestern Gas Transmission, and Texas Eastern Transmission are also negatively impacted.

After extensive conversations with Transco, and due to its location relative to the Piedmont citygates, we do not anticipate the Pine Needle storage to experience the same north to south constraints under design day conditions.

3. In Raney Exhibit GJR-5C, the “Carolinas Demand Net Growth Rate” is set at 1.6% per year. What is the basis for that assumption? In Docket No. G-9, Sub 710, in Mendoza Exhibit MRM 8A, the actual demand growth rate for “Last Year” was shown as 1.20%. In Docket No. G-9, Sub 690, in Mendoza Exhibit MRM 8A the actual growth rate in the first year was shown as 1.37%. In both of those dockets, a 1.6% annual growth rate was used in the forecast periods. Why is Piedmont using a 1.6% growth rate in this docket when the actual growth rate stated in recent dockets has been lower?

Response:

Piedmont’s Sales and Marketing organization looks at the following to determine their best estimate of projected growth: the economic forecast in the areas we serve, employment metrics, and any other growth opportunities on the horizon (new jobs, industry, etc.). The 1.6% growth rate that is projected for the next few years continues to be an estimate Piedmont is comfortable with given these factors.

In reference to the actual growth rate presented, in Raney Exhibit GJR-5B, the most recent actual growth rates are presented. For April 2014 through March 2015, the rate was 1.60%, for April 2015 through March 2016 it was 1.55%, for April 2016 through March 2017 it was 1.21%, and for April 2017 through March 2018 it was 1.67%.

4. On page 6 of witness Raney’s testimony, she explained that design day requirements were calculated using a linear regression analysis conducted on customer sendout data from November 2011 through March 2017. Was this calculation done for each customer class or was it done in aggregate? Exhibit GJR-4A shows a “Baseload - Firm Sales & Firm Transport” of 164,485 and an “Estimated increase in Firm SIs & Trans Usage per degree day” of 22,482.

- (a) Are the units for usage on this page dekatherms?
- (b) Does this Exhibit reflect the results of the linear regression analysis?
- (c) If so, and if separate regression analyses were conducted on each customer class, please provide the results of each of those analyses.

Response (a): Yes the units for usage are dekatherms.

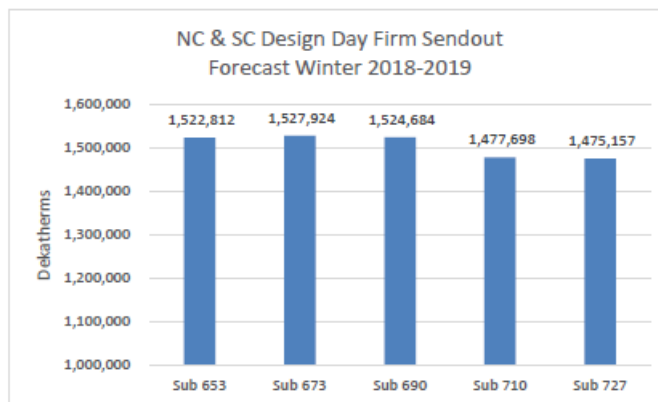
Response (b): Yes, this exhibit represents the results of the linear regression analysis.

Response (c): Consistent with prior periods, Piedmont does not perform separate regression analyses for each customer class. The regression is performed on firm sendout data for all customer classes.

5. How has Piedmont’s Margin Decoupling Tracker impacted Piedmont’s design day requirements? If it has reduced design day requirements, how much less gas are consumers consuming by rate class?

Response: Piedmont has not observed that the Margin Decoupling Tracker mechanism has impacted the Company's design day requirements in any way.

6. Piedmont's Design Day forecast in the annual reviews for the 2018-2019 winter has changed over the years. Please explain the variations shown in the graph below.



Response:

In the table above, the largest drop in the forecasted demand for the winter of 2018-2019 occurred between the planning year for the winter of 2016-2017 and the planning year for winter 2017-2018.

Our design day forecast is based on a linear regression analysis which predicts customer response per heating degree day. The more recent design day projections for the winter of 2018-2019 (which are lower than the previous three year's projections) included the impacts of two warm winter heating seasons and Hurricane Matthew which resulted in a lower forecasted customer usage per degree day than was contained in previous forecasts thereby reducing forecasted demand.

7. Please explain why Piedmont did not protest the recourse rates requested by the Atlantic Coast Pipeline (ACP) and Mountain Valley Pipeline (MVP) based on high returns.

(a) With regard to ACP and MVP, did Piedmont use negotiated rates?

(b) Did Piedmont's contracts with ACP and MVP include an "out" for governmental changes, such as the reduced federal income tax rate?

Response (a): Piedmont has subscribed to ACP capacity utilizing long-term (20 year) service agreements at negotiated rates. As such, ACP's recourse rates have no meaning to or potential impact on Piedmont and its customers until, at the earliest, the expiration of its negotiated rate agreements. At that time, Piedmont expects that the cost of service underlying the ACP system will be so substantially different than it is now, that any challenge to ACP's

current cost of service components will have no meaningful impact on system rates at the end of the initial term. Piedmont has no agreement with MVP for incremental capacity and, therefore, has no standing to challenge rates on that system.

Response (b): Piedmont's agreements with ACP do not include an out for Piedmont based on adverse governmental actions. Piedmont has no agreements with MVP.

8. On page 7 of Piedmont witness Raney's testimony, she discussed the use of a 5% reserve margin in calculating firm design day demand. Piedmont first proposed the use of a reserve margin in Docket No. G-9, Sub 384. At the hearing in that docket, on cross examination by the Attorney General, Piedmont witness Skains testified that the reserve margin would not be used "on peak days."

(a) What were the three highest "peak days" during the review period and what was the average temperature on each day?

(b) Describe any Secondary Market Transactions entered into on those days, including the amount of storage and pipeline capacity used.

Response (a):

<u>Date</u>	<u>Throughput</u>	<u>Ave. Temp.</u>
1/4/2018	1,371,371	20.5
1/6/2018	1,359,556	20.2
1/5/2018	1,357,666	22.2

Response (b): Pending

9. On page 8 of Piedmont witness Raney's testimony, she stated that Piedmont uses a design day temperature of 8.68° Fahrenheit. That is considerably lower than the 12° Fahrenheit design day temperature used when the reserve margin was implemented and is lower than the 10° Fahrenheit average temperature (55 HDD) used by other gas utilities in the State at that time. On Exhibit GJR-3, witness Raney provided data on the "December 2017-January 2018 Cold Snap." The coldest day during that period was January 1, 2018, on which Piedmont reported 46.2 HDD, or an average temperature for the day of 18.8° Fahrenheit. Explain why Piedmont still needs a reserve margin to supplement the design day calculation.

Response: Piedmont has a legal obligation to provide safe and reliable natural gas service to its customers (see e.g. Commission Rules R6-20 and R6-23). The obligation to provide reliable service is of the utmost importance on the coldest days of the year when a failure to meet that obligation could easily result in harm to persons and/or property. This means that Piedmont must, at a minimum, plan to meet customer demand under Design Day conditions. The primary rationale for

maintaining a five percent reserve margin is not to meet customer demand under Design Day conditions but, instead, to provide a cushion against the possibility that there could be variations in demand arising from unexpected customer usage, demand impact from weather conditions outside of temperature such as wind speed, cloud cover, and humidity, as well as the possibility that one or more of its assets procured to meet Design Day demand is unable to deliver (as a result of force majeure or other eventualities). Without a reserve margin, Piedmont and its customers are placed at risk in the event that even a single upstream asset fails to deliver in Design Day or Peak Day conditions. The five percent reserve margin obviously backstops Piedmont's Design Day calculations as well by generally increasing Design Day deliverability to the extent all subscribed assets are available on a Design Day. Piedmont believes that maintenance of a five percent reserve margin is prudent in order to ensure Design Day and Peak Day deliverability against potential curtailments of upstream assets or variations in demand beyond projected design day requirements.

Piedmont's service territory differs from other utilities in the state. In order to determine the appropriate temperature to use for design day planning purposes, Piedmont takes a weighted average of the temperatures reported by weather stations throughout its service territory.

Piedmont uses the coldest average temperature reported in the past 40 years (8.68°) for its design day temperature. Early on in the development of the design day forecast, different time periods may have been considered and different weightings on the weather stations may have been utilized. However, as the customer makeup and concentrations on our system have changed over time, the temperature used for design day calculations has changed slightly. Following the polar vortex experiences, Piedmont reaffirmed that taking the coldest average temperature over a 40 year time period would be appropriate to best ensure uninterrupted delivery to firm customers. The coldest average temperature observed in the most recent winter is not the benchmark Piedmont uses to determine design day. Moreover, the Exhibit GJR-3 referenced was created to demonstrate, as was demonstrated previously with data from two previous winters with polar vortex conditions, that natural gas customers do not conserve during extreme cold weather conditions. That exhibit shows that in fact usage increases in the day or two after the coldest day, even after temperatures begin to moderate. This observed phenomenon further reinforces the need for a reserve margin in the event of actual design day conditions.

10. Raney Exhibit GJR-5C shows that the reserve margin added 74,176 dekatherms to the design day demand. What was the total demand charge paid by Piedmont for its most expensive 74,176 dekatherms per day of capacity during the review period?

Response:

Because the reserve margin is simply a mathematical share of our entire capacity portfolio, we don't assign specific supply contracts to the reserve margin. However,

in response to the question, our Transco Leidy Southeast contract is currently the highest cost capacity contract that was in place for supply during the review period. The rate for that 100,000 dts of capacity is \$.55239/dth year-round.

Attachment A

Docket No. G-9, Sub 727

Response 2a

	Contract Type	Contract Number	Days	Capacity (Dth/d)	Receipt	Delivery
Transco	FT	1003702	365	301,016	Station 30, 45, 50 & 62	Carolina City Gate
Transco	FT	1002268	365	6,440	Station 30, 45, 50 & 62	Carolina City Gate
Transco	FT SE '94/95/96	1012026	365	129,485	Station 85	Carolina City Gate
Transco	Sunbelt	1020771	365	41,400	Station 65 (32,199) & Station 85 (9,201)	Carolina City Gate
Transco	VA Southside	9174932	365	20,000	Station 210	Carolina City Gate - Pleasant Hill
Transco	Leidy	9178798	365	100,000	Marc 1	Station 85
Columbia Gas	FTS	78701, 37803	365	32,801	Leach	Pleasant Hill (9,801) & Boswells Tavern (23,000)
Columbia Gas	NTS	78700	365	10,000	Leach	Pleasant Hill
East TN (MGT Upstream)	FT	410158	365	19,578	Trousdale	Cascade Creek
Atlantic Coast Pipeline *	FT		365	0		
Total Year Round FT				<u>660,720</u>		
Transco	FT Southern Expansion	1004189 & 1004197	151	72,502	Hattiesburg (18,769) , Heidelberg (18,691) & Holmesville (35,042)	Carolina City Gate
East TN (TETCO Upstream)	FT	410158	151	24,798	Hartsville & Mt Pleasant	Carolina City Gate
Transco	FT	1004995	90	<u>6,314</u>	Station 62 (2,463), Station 50 (1,199), Station 45 (1,579) & Station 30 (1,073)	Carolina City Gate
Total Winter Only FT				<u>103,614</u>		
Total Firm Transportation Subtotal				764,334		
Hardy Storage	HSS	100927	70	68,835	Lost River	Boswells Tavern
Dominion	GSS	300175	60	0	GSSDOM	Leidy
Columbia Gas	FSS/SST	38015 (79660)	59	86,368	FSSCAR	Boswells Tavern
Transco	GSS Storage	1000717	55	<u>77,475</u>	GSSTRAN	Carolina City Gate
Total Seasonal Storage				232,678		
<u>Peaking Capacity</u>						
Piedmont	LNG - Huntersville	N/A	10	100,000	On System	On System
Piedmont	LNG - Bentonville	N/A	10	90,000	On System	On System
Transco	Pine Needle	1029836	10	263,400	PN	Carolina City Gate
Transco	LNG (formerly LG-A)	9015489	5	<u>8,643</u>	LNG	Carolina City Gate
Peaking Supplies Total				462,043		

Attachment B

Docket No. G-9, Sub 727

Response 2b (i)

	Contract Type	Contract Number	Days	MDQ	Capacity	Inj Period	W/D Period
Hardy Storage	HSS	100927	70	70,600	4,950,965	All	All
Dominion	GSS	300175	60	13,330	799,800	All	All
Columbia Gas	FSS/SST	38015 (79660)	60	86,368	5,137,358	All	All
Transco	GSS Storage	1000717	55	77,475	4,293,463	All	All
Piedmont	LNG - Huntersville	N/A	10	100,000	1,000,000	All	All
Piedmont	LNG - Bentonville	N/A	10	90,000	1,000,000	All	All
Transco	Pine Needle	1029836	10	263,400	2,634,000	All	All
Transco	LNG (formerly LG-A)	9015489	5	8,643	44,754	Apr - Oct	Nov - Mar

Response 2b (ii)

	Contract Type	Contract Number	(a) Location	(b) Pipeline	(c) Contract Expiration
Hardy Storage	HSS	100927	West Virginia	Hardy / TCO	3/31/2023
Dominion	GSS	300175	PA (61.3924%), WV (29.1058%), NY (9.5018%)	DTI / Transco	3/31/2019
Columbia Gas	FSS/SST	38015 (79660)	OH (55.05%), WV (37.78%), PA (5.04%), NY (2.13%)	TCO	3/31/2023
Transco	GSS Storage	1000717	Pennsylvania	Transco	3/31/2023
Piedmont	LNG - Huntersville	N/A	On System	Piedmont Supply	N/A
Piedmont	LNG - Bentonville	N/A	On System	Piedmont Supply	N/A
Transco	Pine Needle	1029836	North Carolina	Transco	4/30/2019
Transco	LNG (formerly LG-A)	9015489	New Jersey	Transco	Evergreen