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Apr 11 2022

April 11, 2022

VIA ELECTRONIC FILING

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

Re: Docket No. M-100, Sub 163

Dear Ms. Dunston:

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

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

Sincerely,

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

JHJ/bms

Enclosure

cc: Elizabeth Culpepper
Bruce Barkley
Pia Powers

CERTIFICATE OF SERVICE

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

This the 11th day of April, 2022.

/s/ Brooke M. Szymanski
Brooke M. Szymanski

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

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

Response: Frontier has never experienced what we would consider an extreme weather condition. We would define an extreme weather condition as reaching our design day estimates.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

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

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

Response: Frontier defines valves and regulator stations as critical equipment. Valves used in our system are rated for -20 degrees Fahrenheit, which is covered within our Design Day temperature of 5.9 degrees Fahrenheit.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

Response: Regulator stations are monitored using SCADA equipment. Setpoints are set to alarm us of any possible failures. Relief valves offer redundancy. Valves are inspected annually to maintain compliance and make sure they are working properly for when and if they are needed.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

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

Response: N/A, our critical equipment does not require electrical power.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

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

Response: Frontier has satellite offices to cover Watauga/Ashe and Warren Counties. Our main office in Elkin is in the middle of our remaining service areas. In case of an emergency, we can be anywhere on our system within 30 minutes.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

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

Response: Frontier has not experienced low system pressures due to high demand.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

Response:

- a. We do not want to see pressures below our cut point of 575 psi at our Transco take off. Modeling shows that we do not want to be below 400 psi during peak demand. Our MAOP is 1,000 psi for transmission. For distribution, our MAOP is 67 psi, and our MAOP for HDPE is 124 psi.
- b. No, we have not experienced pressures outside safe operation parameters due to high demand.

Name and title of responsible person: Fred Steele, President

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

Response: We do not currently keep inventory of each individual customers natural gas powered equipment. We do track this on each customer's feasibility model, but we do not have total equipment loads readily available in a database to answer this question. We have added small load residential and commercial generators, but we do not believe we have natural gas fired generators in excess of 25kW on our system.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

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

Response: No, we do not supply combustion turbine and/or combined cycle generators.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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10. How would the Company curtail customers in order of margin contribution in an extreme weather situation?

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

Response: Frontier has not previously had to curtail for winter weather, but the Company has had to curtail large interruptible transportation customers for line hits and ILI. If Frontier needed to curtail service, Frontier would make sure that all interruptible customers were curtailed first and that residential customers were impacted last. Frontier would then pull customers by rate class from its customer database for curtailment and would account for the following NCUC tariff rule: "In the event that a North Carolina retail gas utility cannot supply the demands of all its customers, the utility shall curtail the customers paying the least margin per dekatherm first."

- a. Frontier does not have automated valves on its system.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

Response: Frontier has not lost service to customers because of a high demand situation. Frontier has lost service to customers because of a third party line hit. Time is required to shut off and lockout the meter so that appliances can be checked and relit appropriately. The amount of time for this varies depending on the unique situation.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

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

Response: Interruptible transportation customers are aware that we can curtail them if needed. Firm service customers would be notified as soon as we know or anticipate extreme cold weather that could impact their service. Curtailing customers because of extreme cold weather has not happened in Frontier's history.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

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

Response: We do not have mass text/email messaging service, but we do have access to email addresses for those customers that provided it in our customer database. We also have direct contact phone numbers in our customer database.

Name and title of responsible person: Fred Steele, President

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

Response: Frontier is required to shut off and lockout the meter so that appliances can be checked and relit appropriately if known pressure is lost. If pressure is lost from extreme weather, automatic pilot lights will work, though if it is known that a customer lost pressure, it is still best practice to have human intervention for relights.

Name and title of responsible person: Fred Steele, President

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

Response: Frontier is able to break out daily usage between firm and transportation customers, but we cannot break down what the exact demand would have been by customer class because of cyclical billing. We can get an estimate of this if needed.

Name and title of responsible person: Fred Steele, President

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

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

Response: We have never had to curtail residential customers because of a cold weather event.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

Response: If a large enough number of customers are curtailed, Frontier can call on its mutual assistance plans with CPGA and SGA to help relight. In an extreme weather condition, Frontier would not hesitate to reach out for assistance in order to get gas back on as quickly as possible.

Name and title of responsible person: Fred Steele, President

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18. Please provide the weather and load forecasted and realized for the last three winter peaks on Frontier's system, including the percent error in the forecasts.

Response:

	Forecasted	Actual	Percent Error
Jan 2019	12200	12195	0.04%
Jan 2018	12000	12060	0.50%
Jan 2022	12499	11288	9.69%

Name and title of responsible person: Fred Steele, President

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19. Regarding the response to Question 6, what temperature does FNGC use for its Design Day condition?

Response: Our design day condition has an expected usage of 15,508 with a modeled temperature of 5.9 degrees Fahrenheit. This is extremely unlikely, but we are prepared to have enough gas to cover customer usage if this were to happen. For example, we have 20,000 dth available to us through our asset manager.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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20. Regarding the response to Question 8, why does the Company have to curtail transportation customers when conducting in-line inspections?

Response: We would not typically have to curtail transportation customers during inline inspections if everything went as planned. During the 2018 inline inspection, a pig got stuck, and we had to curtail transportation customers in order to maintain line pack until we could get the system on bypass.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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**Frontier Natural Gas Company
Docket No. M-100, Sub 163
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21. Regarding the response to Question 9, how does the Company monitor system pressure and does the Company own/operate any compressor stations on their system?

Response: Frontier monitors system pressures with SCADA equipment at our regulator stations. We do not operate compressor stations.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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22. Regarding FNGC's answer to Question 9, please describe FNGC's future plans to conduct simulation training of a load shedding event for control room operators. If there are no future plans, please describe why FNGC does not deem it valuable to do so.

Response: Frontier does not operate a control room. We can still conduct simulation training for a load shedding event to help us prepare for an extreme cold weather condition. We do not currently have future plans to do so, but we will make plans to conduct some sort of training for extreme cold weather events in 2022.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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

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

Response: Frontier has never had a cold weather event where we were not able to serve our firm customers.

Name and title of responsible person: Fred Steele, President

Name and title of preparer: Taylor Younger, Regulatory Compliance Engineer

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