Liberty Utilities (Peach State Natural Gas) Corp.
Georgia Public Service Commission
Docket No. 57062
Staff's First Set of Data Requests

STF 1-1 Please provide the following data used to calculate the 2026-27 Gainesville and Columbus design days:

a. Statistical data used in the regression calculation.
b. Examples of the detailed support for statistical data used in the regression calculation in Step 1.

Response:

Please see the attachment labeled "DN 57062 Attachment STF 1-1.1-TRADE SECRET" for Columbus and Manchester total city gate needs, as well as the breakdown of firm, interruptible, and transportation usage. Columbus and Manchester firm were combined for the Design Day. This document includes HDD and HDD step calculations.

See the attachment labeled "DN 57062 Attachment STF 1-1.2-TRADE SECRET" for Gainesville firm, interruptible, and transportation usage. This document includes HDD and HDD step calculations.

See the attachment labeled "DN 57062 Attachment STF 1-1.3-TRADE SECRET" for the month and day binary data used in the model.

See the attachment labeled "DN 57062 Attachment STF-1-1.4-TRADE SECRET" for examples of additional detailed support for statistical data used in the regression calculation.

Submitted by: Nathan Young, Liberty Utilities, Supervisor II Gas Supply

Liberty Utilities (Peach State Natural Gas) Corp.
Georgia Public Service Commission
Docket No. 57062
Staff's First Set of Data Requests

STF 1-2 Please provide the dates for each of the five coldest days experienced in both the Columbus and Gainesville service areas during the 2025-2026 Plan Year. The response should provide the HDD level for each of the five identified dates for each service area.

Response: The tables below list the five highest HDD days (inclusive of ties) for both service areas during 2025–2026.

Columbus and Woodland			
Date	**Act HDD**	**Day of Week**	**Description**
1/31/2026	41	Saturday	Weekend
1/26/2026	36	Monday	Business Day
2/1/2026	34	Sunday	Weekend
1/15/2026	32	Thursday	Business Day
12/15/2025	31	Monday	Business Day

Gainesville			
Date	**Act HDD**	**Day of Week**	**Description**
1/31/2026	48	Saturday	Weekend
1/26/2026	44	Monday	Business Day
2/1/2026	38	Sunday	Weekend
1/15/2026	38	Thursday	Business Day
12/14/2025	37	Sunday	Weekend

Submitted by: Nathan Young, Liberty Utilities, Supervisor II Gas Supply

STF-1-3 Are there any changes in final delivery capacity from the current plan (Docket 56178) Plan Liberty is seeking approval for in this plan?

Response: Yes, the Company is seeking approval of its final delivery capacity. The only change from the last plan is the changes in peaking volumes needed to meet Design Day model requirements. For Columbus, the peaking MDQ increased from 4,900 Dth/day to 5,850 Dth/day. For Gainesville, the peaking MDQ decreased from 4,500 Dth/day to 4,250 Dth/day.

Submitted by: Nathan Young, Liberty Utilities, Supervisor II Gas Supply

STF 1-4 Based on the effectiveness of the design day forecast for the previous heating season, does Liberty remain confident in its forecast's ability to accurately predict design day capacity for the upcoming winter heating season?

Response: Yes, the Company remains confident in the Design Day's forecast ability to predict customer needs on cold days.

Submitted by: Nathan Young, Liberty Utilities, Supervisor II Gas Supply

STF-1-5 Are there any further changes or amendments to the forecast that Liberty believes must be made to improve forecast accuracy for the upcoming winter heating season? If so, please elaborate.

Response: No, the company is confident in the Design Day forecast's accuracy for the upcoming winter season.

Submitted by: Nathan Young, Liberty Utilities, Supervisor II Gas Supply

STF-1-6 In the previous plan, Liberty provided growth adjustments in the 2025 – 2026 forecasting model.

a. Did this growth materialize in the 2025 – 2026 Plan Year?
b. How did the actual growth compare to what was forecasted in the 2025 – 2026 Plan Year?
c. Why were growth adjustments not included in the 2026 – 2027 forecasting model?

Response:

a. The growth adjustments reflected in the 2025 – 2026 Gas Supply Plan were based on the best available information at the time of the filing, including customer-provided forecasts and anticipated project development timelines.

While certain elements of forecasted growth did materialize, the timing and magnitude of that growth differed from what was assumed in the 2025 – 2026 Plan. Consistent with the Company's experience reflected in subsequent proceedings, realized customer activity and usage levels did not occur uniformly with the assumptions embedded in the forecast period.

b. Actual growth in the 2025 – 2026 period was lower than forecasted when evaluated in terms of realized usage and associated throughput.

As reflected in the Company's subsequent analyses, including its GRAM Revenue True-Up filings, differences between forecasted and realized outcomes were primarily driven by:

- Variations in project timing, including delays and cancellations outside of the Company's control; and
- Differences between customer-provided forecasts and actual realized usage levels. These factors resulted in realized growth that did not align with the assumptions embedded in the forward-looking forecast. The variance reflects the inherent uncertainty associated with forecasting large customer activity and system demand, rather than a change in underlying modeling approach.

c. The Company did not include incremental, out-of-model growth adjustments in the 2026 – 2027 forecasting model in order to align the forecast more closely with

observable historical data and reduce reliance on forward-looking assumptions that are subject to timing and realization uncertainty.

As described in prior Gas Supply Plans, growth adjustments have historically been applied where forward-looking information was not fully reflected in the underlying historical dataset used in the model.

However, based on the Company's recent experience with differences between forecasted and realized growth—driven by project timing variability and customer usage outcomes—the Company determined that including such adjustments in the current Plan would introduce additional uncertainty into the forecast.

Accordingly, the 2026 – 2027 model reflects a more conservative approach that relies on in-model results derived from historical usage patterns and observed customer activity, rather than applying incremental growth adjustments outside of the model structure.

The Company will continue to evaluate potential growth as it becomes more certain and supported by measurable activity, while maintaining a forecasting approach that is consistent, transparent, and grounded in verifiable data.

Submitted by: Adam Bigknife, Liberty Utilities, Sr. Manager Rates and Regulatory Affairs

STF-1-7 In Exhibit II of the 2026 – 2027 forecasting methodology, the final CUSUM graph in "Columbus Stability Test" shows the CUSUM falling outside the range of significance.

a. What caused the CUSUM to fall outside the range of significance?
b. What dates are associated with the points at which the CUSUM fell outside of the range of significance?
c. Please explain in detail what the CUSUM graph indicates about the dataset used in the regression analysis and the reliability of the analysis output. Additionally, clarify what it means when the CUSUM falls outside the range of significance.
d. What corrective measures are available or appropriate when the CUSUM falls outside the range of significance?

Response:

a. The CUSUM fell outside the 5% significance bounds due to a departure from parameter stability, meaning the regression coefficients are not constant over the sample period. Specifically, there is evidence of a structural break in the relationship between HDD and sendout, resulting in systematic residuals that accumulate and cross the boundary.

b. The Quandt-Andrews breakpoint test identifies March 20, 2025, as the most likely structural break date. The CUSUM begins to diverge after this point and subsequently crosses the lower 5% significance bound in the period following this break (late 2025 into early 2026).

c. Please note that the regression used to calculate the Design Day and the one used for some of the statistical tests such as the CUSUM graph are similar, but separate models. The CUSUM graph tests the null hypothesis of parameter stability.

When the CUSUM crosses the 5% significance bounds, the null is rejected, indicating that model parameters are unstable over time. In this case, the downward crossing indicates persistent negative residuals, implying the model systematically overpredicts sendout in the latter portion of the sample. This reflects a change in the HDD–sendout relationship, not random error. Importantly, this result applies to the simplified model used for statistical

testing, which excludes dummy variables. It does not directly assess the stability of the forecasting model, which includes additional controls.

d. Corrective measures for parameter instability include re-specifying the model to incorporate structural break controls (e.g., post-break dummy variables or interaction terms with HDD), restricting the sample to a stable sub-period, or expanding the sample to include additional observations to stabilize coefficient estimates. However, modifying the model in these ways may reduce its effectiveness for its intended purpose. In particular, adding structural controls or changing the sample would make the specification less comparable to the Design Day model and could mask the very changes in the HDD–sendout relationship that the simplified analysis is meant to identify. As such, there is a trade-off between improving statistical stability and preserving the model's ability to highlight shifts in the underlying weather-response relationship.

Submitted by: Nathan Young, Liberty Utilities, Supervisor II Gas Supply

STF-1-8 Please provide in detail the purpose of each statistic used to validate the regression model. For reference, see the Columbus Design Day Regressions and the Gainesville Design Day Regressions.

Response:

Model Variables

The model includes Heating Degree Days (HDD), HDD45, lagged HDD, lagged sendout, winter month indicators (November–March), and day-of-week dummy variables. These variables capture key drivers of sendout, including weather sensitivity, persistence in demand, seasonal effects, and systematic daily usage patterns.

Coefficients

Coefficients represent the estimated change in sendout associated with a one-unit change in each explanatory variable, holding other factors constant. They provide the primary interpretation of the relationship between inputs (e.g., HDD) and output (sendout).

Standard Error

The standard error measures the variability of each coefficient estimate. Smaller standard errors indicate more precise estimates and greater confidence in the coefficient values.

t-Statistic

The t-statistic is calculated as the coefficient divided by its standard error. It is used to test whether a coefficient is statistically different from zero.

Probability (p-value)

The p-value indicates the likelihood that a coefficient is equal to zero. Lower p-values (typically less than 0.05) indicate statistical significance and suggest the variable contributes meaningfully to the model.

R-squared

R-squared measures the proportion of total variation in sendout explained by the model. Higher values indicate stronger explanatory power.

Adjusted R-squared

Adjusted R-squared modifies R-squared to account for the number of variables in the model, preventing overstatement of fit due to additional predictors.

Standard Error of Regression

This statistic measures the standard deviation of the residuals and reflects the average magnitude of model prediction errors.

Sum of Squared Residuals (SSR)

SSR represents the total unexplained variation in the model, calculated as the sum of squared differences between actual and predicted values.

Log Likelihood

Log likelihood measures how well the model explains the observed data. Higher absolute values indicate better model fit and are used in calculating model selection criteria.

Durbin-Watson Statistic

The Durbin-Watson statistic tests for autocorrelation in the residuals. Values near 2 indicate no autocorrelation, while values significantly above or below 2 indicate potential serial correlation.

Mean Dependent Variable

The mean dependent variable represents the average sendout over the sample period and provides a baseline for interpreting model scale and error.

Standard Deviation of Dependent Variable

This statistic measures total variability in sendout and is useful for comparing against the model's residual variation.

Akaike Information Criterion (AIC)

AIC evaluates model fit while penalizing for complexity. Lower values indicate a better balance between fit and parsimony.

Schwarz Criterion (BIC)

BIC is similar to AIC but applies a stronger penalty for additional variables, favoring simpler models when appropriate.

Hannan-Quinn Criterion (HQIC)

HQIC is another model selection criterion that applies a moderate penalty for complexity, lying between AIC and BIC in stringency.

Submitted by: Nathan Young, Liberty Utilities, Supervisor II Gas Supply