

Rocky Mountain Natural Gas LLC (“RMNG”) Fuel, Lost and Unaccounted For-Gas (“FL&U”)

June 2022 – May 2023 Report

Colorado PUC E-Filings System

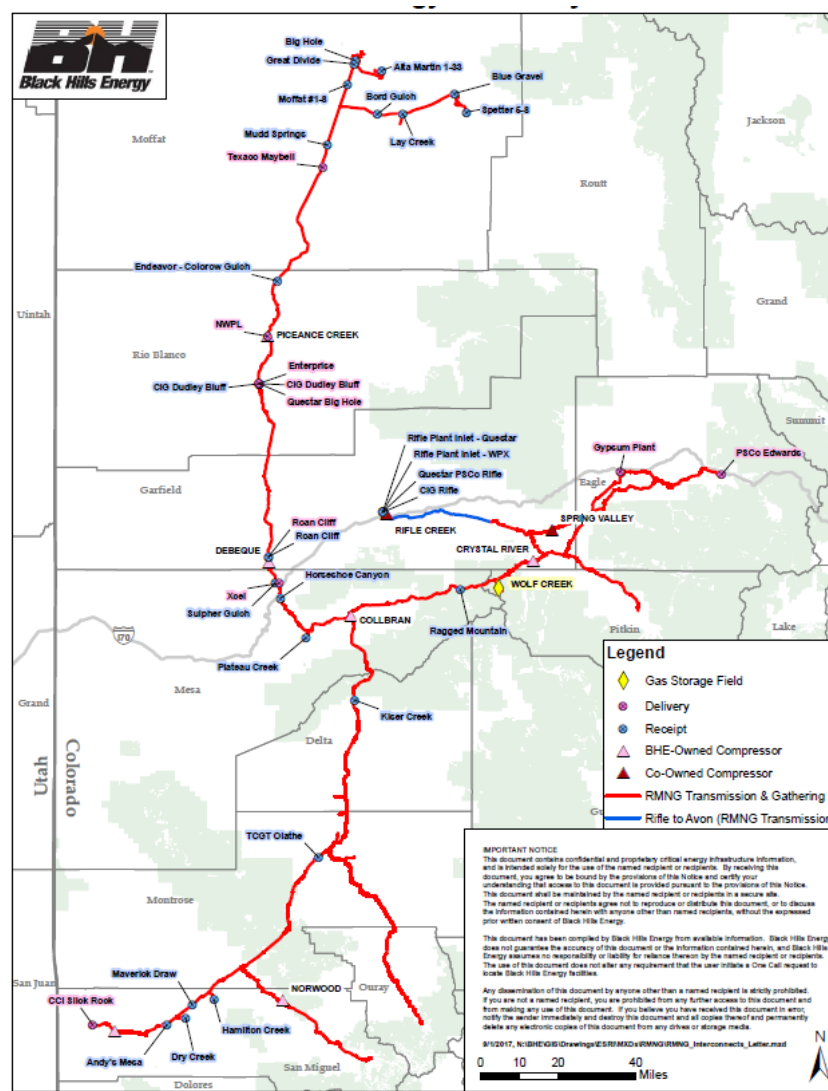


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RMNG System

The RMNG System (also referred to as “System”) consists of pipeline facilities of varying diameters and carrying capacities, pipeline compressors, natural gas storage and processing facilities, and related facilities. The system extends across the Western Slope of Colorado primarily to receipt points and town border stations (“TBSs”) served by Black Hills Colorado Gas, Inc. Base Rate Area 1. The System includes 518 miles of pipeline classified as transmission and 118 miles of pipeline classified as gathering; however, RMNG does not distinguish its gas delivery operations between these functions. Transportation across the System is accomplished through pipeline facilities that consist primarily of 6- to 10-inch diameter steel pipe, with approximately 40 miles of 4-inch or less diameter steel pipe and 58 miles of 12-inch diameter steel pipe. The System also has 11 compressor units located at five different compressor stations. There are approximately 20 active inlet meters on the System, which measure gas that comes onto the System, while there are approximately 75 active outlet meters which deliver gas to receipt points or TBSs on the System. A map of the System is depicted below:



Fuel, Lost and Unaccounted for Gas

Fuel, Lost and Unaccounted for Gas (“FL&U”) is that portion of Shipper’s natural gas received by the Company for delivery to the Shipper, which is retained by the Company as compensation for fuel used in operations and lost and unaccounted for gas. The Fuel Reimbursement Quantity is stated as a percentage of the natural gas delivered by Shipper at the Point of Receipt.

A generic definition of FL&U gas is metered gas receipts minus metered consumption of end-use customers, that is, the difference between the gas injected into the transmission system and the gas measured at the town-border stations. Routine operations of a gas utility will result in FL&U due to measurement errors; Company use and leaking pipes.

Various reasons contribute to the existence of FL&U gas, the primary ones being Company use measurement and accounting errors, stolen gas, and pipe leaks. Measurement of FL&U gas is inherently an imperfect estimation process; for example, the utility can only evaluate the accuracy of all meter information within a specified level of tolerance error instead of assuming a definite value. Measurement errors causes a discrepancy between measured gas flows and actual flows, with the difference being either positive or negative. The best efforts of a utility can reduce FL&U gas but can never eliminate it. The major factors contributing to existence of FL&U:

1. Company Use: Company use of gas is fuel usage for compressors, line heaters, power generation, and also used for instrumentation gas.
2. Pipe Leakage: A utility can estimate gas leakage based on (a) known leaks, (2) estimated undetected leaks, and (3) leakage factor per leak. The Company and utilities find it difficult to determine how long a leak has existed and any changes in the leak rate from initial detection to repair. Leakage as a major cause of FL&U gas may translate into an abrupt change in reported FL&U gas statistics.
3. Measurement Errors: Temperature and gas pressure affect measured volumes of natural gas. The utility corrects the gas volume at a gate station to a temperature of 60°F at a base pressure of 4 ounces. If the utility fails to make the same correction for gas sold, unaccounted for gas would result. For every 5°F above or below 60°F, the gas volume will change by about 1%.
4. Accounting Errors: One cause is the processing error when the gas accounting department incorrectly measures meter readings. It includes inaccurate calculations, misinterpretation of meter data, and improper accounting for gas receipts and deliveries. The problem lies with a flawed information system.
5. Blowdown: This practice releases gas into the atmosphere during maintenance, inspections, or emergency procedures.
6. Theft: Stolen gas is gas that the utility delivers, and customers use, but that is not recorded as sales. In other words, stolen gas is consumed by an end user but not paid for. Other customers are, in effect, subsidizing delinquent customers.

Results Overview for the period June 2022 – May 2023

Of the major factors described above, the Company calculates the Company Use portion of FL&U as a discrete component with reasonable certainty, as Company Use is mostly metered and subject to measurement (known and measurable). The volume of gas calculated for Company use is reflected as “Company Use for Transmission Operations”. Between June 2022 and May 2023, Company Use on the System was metered at 148,965 Dth’s. These volumes are typically gas used to fuel compressor stations, line heaters, and dehydrators on the Company’s System.

Lost and unaccounted for gas attributable to Blowdowns is estimated by the Company based on blowdowns that occurred throughout the period. While the volume of gas lost and unaccounted for attributable to Blowdowns is not metered, estimating practices allow the Company to measure the volume of gas lost with reasonable accuracy, making Blowdowns Known and Measurable.

Lost and unaccounted for gas attributable to Pipe Leakage, Measurement Errors, Accounting Errors, and Theft are the most uncertain elements of FL&U calculations. Pipe Leakage, Measurement Errors, Accounting Errors, and Theft is not metered, nor are estimations very accurate and therefore lost and unaccounted for gas volumes are very difficult to quantify (unknown and not measurable). In addition, if there is Pipe Leakage, Measurement Errors, Accounting Errors, or Theft over the period, the Company would have taken necessary steps to correct the data for such known factors. Notwithstanding the Company’s best efforts to consider and correct these known factors, detection risk of otherwise unknown Pipe Leakage, Measurement Errors, Accounting Errors, and Theft may contribute to lost and unaccounted for gas.

On a monthly basis there may be significant fluctuation between metered gas deliveries to inlets and metered gas receipts to TBS outlets. Often times during warmer months, metered gas deliveries to inlets can significantly exceed metered gas receipts to TBS outlets. This is due to Shipper’s injecting gas into storage during the warmer months, when gas prices are historically lower. Conversely, during cooler months, metered gas receipts to TBS outlets can significantly exceed metered gas deliveries to inlets. This is due to Shipper’s withdrawing gas from storage in times when more gas is required by end-use customers.

June 2022 – May 2023 FL&U Metrics

Known and Measurable	# of Events/Meters	Dth of Gas
Company Use	13	148,965
Blowdowns	Multiple	652
Unknown and Not Measurable		
Pipe Leakage	19	
Measurement Errors	Unknown (estimated Dth of Gas)	
Accounting Errors	Unknown (estimated Dth of Gas)	
Theft	Unknown (estimated Dth of Gas)	
Total Unknown and Not Measurable	Plug figure	168,590
Total FL&U		317,555

In consideration of Pipe Leakage, there is certainly some amount of pipe leakage on the Company's System, however it is difficult to ascertain how long a leak has existed and any changes in the leak rate from detection to repair. The Company performs LDAR and ariel leak surveys on an annual basis of the entire system to locate and identify leaks, and then repairs the leaks with expediency. As a result, the Company definitively knows the number of leaks on the System. Between June 2022 and May 2023, the Company located 19 leaks on the System through both LDAR and ariel leak surveys. Due to the uncertain nature of pipe leaks, the Company would have to rely on many different variable assumptions to estimate the volume of lost and unaccounted for gas related to pipe leakage. Pipe Leakage is therefore tracked in the aggregate Unknown and Not Measurable results as the Company can't conclude the volume of gas lost with any certainty.

In consideration of Measurement Errors, the Company did not discover any unadjusted measurement errors on the system between June 2022 and May 2023. As described in the Measurement Errors narrative, the Company takes into consideration temperature and gas pressures in the measurement of gas on its system. Notwithstanding the Company's consideration of temperature and gas pressures in its gas measurement, there is likely lost and unaccounted gas due to those factors that the Company still is unable to verify based on the detection risk of Measurement Errors. Measurement Errors are therefore tracked in the aggregate Unknown and Not Measurable results.

In consideration of Accounting Errors, the Company did not discover any accounting errors as they relate to incorrect meter readings. Similarly, the Company believes it has accurate calculations, interpretation of meter data and accounting for gas receipts and deliveries.

In consideration of Blowdowns, the Company had multiple Blowdowns over the course of the period for maintenance, inspection and operational procedures. Between June 2022 and May 2023, the Company estimates that 652 Dth of gas was lost from the System due to Blowdowns. Blowdowns are tracked discretely in the Known and Measurable results.

In consideration of Theft, the Company did not discover any theft from the system. Transmission systems are less susceptible to theft than distribution pipelines would be due to the fewer number of services and access points. Any possible undetected Theft is tracked in the aggregate Unknown and Not Measurable results.

Conclusion

RMNG's FL&U calculation resulted in a factor of 1.96% over the June 2022 – May 2023 time period. As previously described, Company Use was responsible for 148,965 Dth's, which is Known and Measurable. Blowdowns accounted for approximately 652 Dth's, which is Known and Measurable through estimating practices. Pipe leakage, measurement errors, accounting errors, and theft are estimated to be responsible for 169,242 Dth's, which is Unknown and Not Measurable. Due to the detection risk of these Unknown and Not Measurable volumes, the Company cannot conclusively attribute the lost and unaccounted for gas to more specific factors, but attributes those remaining lost and unaccounted for gas volumes to this category.